



User Manual

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What is BSD LinkMan-E?

BSD LinkMan-E is a linking software product that lets you easily create, monitor, and modify relationships between various representations of a building design project -- as modeled and drawn using Autodesk Revit and as specified using BSD SpecLink®-E. This linking software is referred to as LinkMan-E or LME. The LME user interface is a set of tabs, together constituting a monitoring station that allows you to identify, control, and coordinate relevant discrepancies between the two software applications. In short, LME is a tool for coordinating the Revit building model and its specifications.

LME uses master lists of Products and Assemblies to connect the Revit elements (Category, Family, Type) to the SpecLink-E product specs. These master lists are shown on the Products and Assemblies Dashboards and are the key views for coordination. The dashboards are organized by MasterFormat (Products) and UniFormat (Assemblies). The "Show Active Objects" button quickly collapses the view of the Products and Assemblies Dashboards to show only those items that are active in the Revit and/or SpecLink-E projects, highlighting any discrepancies. To collapse it further use the "Active Revit" or "Active SLE" buttons. The user resolves the discrepancies, not the software.

Because of the nature of Revit, we anticipate that a large number of Revit elements used in the building model will be non-standard, custom objects. Since a Revit element is uniquely identified in the model by name, it becomes customized the moment it is copied, because Revit forces a name change. LinkMan-E is built to minimize this drawback, by making identification of un-linked objects very easy, by making linking them to LME assemblies and/or products a simple matter of drag-and-drop, and also by making the creation of new LME assemblies to link them to as easy as drag-and-drop. On the other hand, the more a firm can standardize the Revit element set that it commonly uses, the less work is required in LME – once a link from a Revit element is made to LME, that link is active in every subsequent project, provided the Revit element is not renamed.

The building design and construction industry today is abuzz with the prospect of “building information modeling” or BIM, as the future of the industry. The focus and goal is the interoperability of industry software tools to create, maintain and utilize a common set of project information. This interoperability would benefit the industry in many ways, including the elimination or minimization of redundant data entry and substantial improvements to coordination between disciplines. While some interoperability proponents see all this project data as residing in a single repository, BSD believes that a single repository is not necessary, or even desirable in some cases, and has developed LME as an interoperability tool to enable these different software tools to communicate with each other without the necessity of merging their data. The initial implementation of LME links Autodesk Revit to BSD SpecLink-E (for specifications), but future implementations will include cost estimating (BSD CostLink-E), other 3-D graphical model software, and ultimately any other software that provides information about the project.

The traditional mode of coordination between drawings and specs is to read the drawings, read the spec, and make them match. The same thing goes for coordinating the drawings and cost estimate or coordinating specs and cost estimate. LinkMan-E uses software to match up things and to find things that don't match. The user decides how to resolve the mismatches and changes the drawings (3-D model) or the specs as required, using the software they reside in. LME also provides an option to change the specs from within LME, rather than having to switch to SLE to do so.

LinkMan-E incorporates a tab that allows users to import, edit, and connect keynotes to Revit objects while simultaneously linking the objects to specifications in BSD SpecLink-E. A unique master keynote has been assigned to each of the thousands of products and assemblies in the LinkMan-E database, all of which have been linked to appropriate sections and paragraphs in

BSD SpecLink-E. Objects in Revit have also been linked to the same LinkMan database, which permits LinkMan to display any discrepancies between a Revit project model and the corresponding project specifications in SpecLink – or to update the specifications automatically, based on the Revit data.

The keynote tab in LinkMan-E allows users to import a file from Revit that displays all keynotes currently present in the Revit model. These keynotes are displayed adjacent to the corresponding master keynotes in LinkMan. The Revit keynotes can be edited or deleted in LinkMan-E, and LinkMan-E's master keynotes can be copied individually to the Revit file or copied in total to any blank fields in the Revit file with a single click. The Revit user can then import this edited keynote file from LinkMan and assign it to the project. Any edited keynotes will automatically replace any that are currently in use in the Revit model, and all the additional LinkMan master keynotes will be available for use in the project.

SpecLink-E / LinkMan-E User Scenarios

User scenarios range on a continuum from minimal integration -- amounting to just barely beyond word processing specs and CAD -- to highly advanced -- full "BIM" implementation and office masters in SpecLink-E. Many organizations are or will be progressing along this continuum, some gradually, others in fits and starts.

Minimal Integration: The spec is prepared last, independently of the 3-D model

The specification preparer, whether an in-house employee or a consultant, is often physically remote from the Revit modeler and the cost estimator. The spec writer uses the Assembly and Products Dashboards in LinkMan-E (LME) to identify assemblies that are used in the Revit model and corresponding products he needs to specify. The spec writer then uses the SpecLink-E Project tab to either identify the spec sections and text that he needs to include, switching to SLE itself to do that, or uses LME to actually "turn on" the relevant spec text.

Some cooperation of the Revit modeler is necessary, to get the LME equivalent of the Revit objects loaded into LME's Revit Project view and subsequently re-synchronized, but the Revit modeler needn't know anything else about LME or SpecLink-E. The spec writer can review the names of the actual Revit objects and link them to LME assemblies if necessary. If the Revit modeler has used Autodesk -provided objects that BSD has pre-linked to LME, the spec writer need make no other links. If custom Revit objects are used, and the spec writer has no access to the actual Revit project via the Revit software or a viewer, the internal details of the objects will not be visible - that data would have to be acquired verbally.

In the long run, the spec writer would reduce production time by using the Product and Assembly Dashboards to link his SLE office master for this client or project type to an LME office master project of the same type for re-use on multiple projects. LME provides for user-added assemblies, products, and links to be available in other projects, not just the project they were generated in.

Advanced Integration: The specification and the 3-D model are prepared in parallel, both from master "libraries"

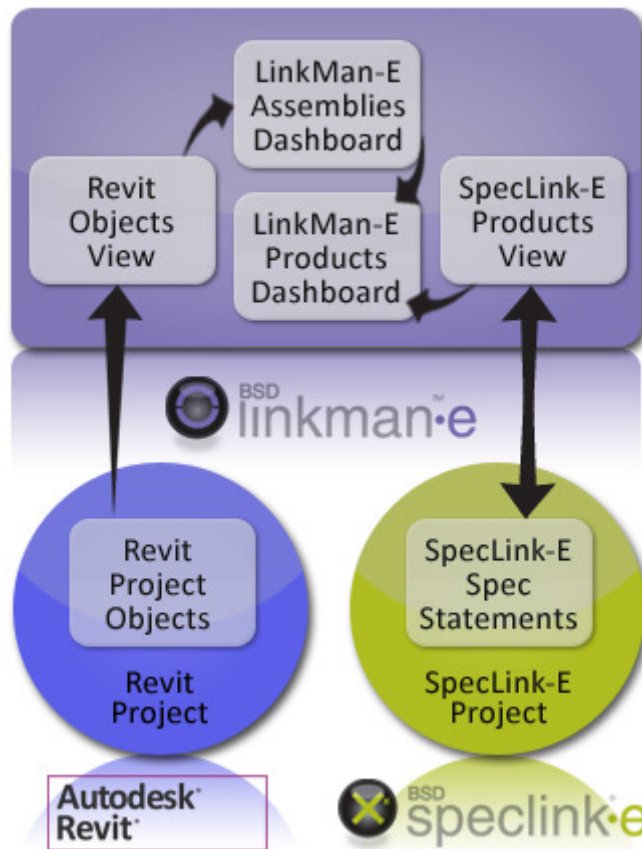
The architect or other design professional has developed an "office library" of Revit building objects and has linked them to LME. The specification writer has prepared one or more "office masters" in SLE and linked them to LME. The Revit modeler builds his model by using as many of the "pre-linked" objects as possible -- either the Autodesk-provided objects or those from his office library. He may begin with "generic" objects that have little internal detail and later change these to more detailed objects as the design progresses. The Revit modeler doesn't pay much attention to LME at first and in many cases will not even have it running.

When the model is sufficiently developed to provide useful information to the spec writer, the Revit modeler connects the Revit project file to LME and the spec writer connects the appropriate SLE office master file to LME. Both the specification writer and the Revit modeler, and possibly the project manager, use the Product and Assembly Dashboards for coordination review. When they open LME, the Product and Assembly Dashboards show the status of Revit objects and SLE sections and text, plus the relationships between them.

The LME Revit Project view quickly identifies any Revit objects that are not linked to an LME assembly. The Assemblies Dashboard quickly shows the products to which each assembly is linked, plus identifies assemblies not linked to any products. The Products Dashboard shows which products are already included in the specification and which are not. Using the Products and Assemblies Dashboards, discrepancies are apparent - for instance, where Revit shows an object but SLE shows no specs, or where SLE shows a spec for a product that is apparently not used in the Revit project. After resolving the obvious discrepancies, verbal communication is likely to be necessary to reconcile other discrepancies shown.

As in the minimal integration scenario, the spec writer either switches to SLE itself to edit the specs or uses the Products or Assemblies Dashboard to actually "turn on" the relevant spec text. The Revit modeler must use Revit itself to modify the project objects, if necessary. Under some circumstances it may be unnecessary to modify an actual Revit object if the LME Assembly it is linked to is also linked to the proper products. The spec writer could also change the LME Assembly or Product to which a Revit object is linked in order to make more detailed links to the specification.

LinkMan-E Data Structure Schematic



How LinkMan-E Links to Revit

LinkMan-E uses the Category, Family, and Type identifications of Revit objects to associate them with LME Assemblies. The Category is the first level title in the Project Browser folder tree below "Families." The Family and Type names are those that show in the Revit Type Properties box

(and in the folder tree). Note: Revit has a few idiosyncrasies in Category naming, making the Revit View in LME not an exact match for the Revit Project Browser view. This does not interfere with linking.

All the Families and Types in the Revit Architectural 2009 through 2015 Imperial Libraries and the out-of-the-box template files have been "pre-linked" to LME assemblies -- except where the Revit object is too general or sketchy to identify what materials of which it is made. If an Autodesk-provided object is used in a building model as-is -- without changing any of the parameters that would force Revit to make a copy -- then LME will know about it automatically.

If a custom object is made by duplicating an Autodesk-provided object, the copy must be given a different Type name (Revit's rule). LME will see it but will not "recognize" it. The same goes for custom objects made in other ways -- Revit will not allow duplicate Category/Family/Type identifications. For all custom objects, once the Revit data has been updated in LME, the Revit objects will show in the LME Revit Project view, but without any link to an LME Assembly. To connect the custom Revit object to LME, simply drag-and-drop it to any assembly in the Assemblies Dashboard. If an existing LME Assembly is suitable you can use it, as it is already linked to products and thus the specification. If necessary, you can also quickly build a new LME Assembly for the purpose. You can also link a Revit object to an LME Product.

LME also includes a [Revit Keynote Management System](#).

How LinkMan-E links to SpecLink-E

Since SpecLink-E, like most specifications, deals with products as opposed to assemblies of products, LME includes a master list of generic product names in the Products Dashboard. There is a one-to-one relationship between the products in the Products Dashboard and product paragraphs in the SpecLink-E database. In some cases, where a single generic product could be specified in more than one specification section, the generic product name in the Products Dashboard indicates the specification section that particular product entry applies to. (You can see some of these by placing the cursor on the folder Facility Construction Subgroup - Divisions 02 through 14 in the Products Dashboard and reviewing the alphabetical list of generic product names displayed -- the section number appears in parentheses at the end of the generic product name.)

The second thing LME does to link to the specs is to associate a set of generic products with each LME Assembly. In the Assemblies Dashboard, click on an assembly -- the products associated with it are displayed in the sub-window at the bottom. This is the way that LME bridges the "gap" between Revit objects -- which are usually assemblies of multiple products -- and the individual products that are described in the specifications.

When you use Synchronize to activate links to the SpecLink-E project, an activated paragraph in the SpecLink-E project will automatically select its parent, which will select its parent, all the way to the top of the section, so that activating a lower level paragraph in a SLE section can activate the entire section. These links are indicated by a blue arrow in the SLE link dialog box.

BSD Object and Materials Catalog for Revit

BSD has created a BSD Catalog for Revit (2013 and later) that is pre-linked to BSD SpecLink®-E, BSD's automated construction specifications software. The catalog is comprised of 6 Revit Projects (so far): Walls, Doors, Windows, Floors/Ceilings, Plumbing, and Exterior Accessories. The objects are pre-linked through LME to SLE in two ways: by a unique name and by the

materials applied to each object. You can use the BSD objects in your Revit project, or you can assign a BSD created material to your existing Revit objects. There are over 1,700 materials in the library that, when applied to Revit elements such as walls or floor assemblies, will automatically connect the Revit elements to the corresponding specifications in BSD SpecLink-E.

Installation and Setup

For the most current installation instructions see the updated installation document on our Download Center.

Hardware and Software Requirements

- LinkMan-E runs on 32-bit and 64-bit Microsoft Windows environments on Intel-based personal computers. The following describes the hardware and software requirements to operate the software.
- As with any Windows-based application, faster system components and more system memory enable faster performance.
- The speed of the server disk drive is important since the server portion of both SpecLink-E and LinkMan-E is a database-based system.
- Use of a higher resolution video card and monitor enables more information to be displayed on the screen.

Recommended server configuration

- LinkMan-E requires a SpecLink-E Server or Standalone installation and requires a valid LinkMan-E access key.
- Requirements for that server are unchanged by the installation of LME. Please see the description of SpecLink-E requirements for details.

Recommended client configuration

- Intel-compatible processor, 2 GHz or better
- Windows™ 8 or 7
- 2 GB of RAM
- 1 GB of available disk space
- XGA or higher resolution monitor
- Internet Explorer 8.0 or higher

Recommended laptop or standalone configuration (which will run both server and client applications)

In this configuration, the computer will likely be running Autodesk Revit Architecture, SpecLink-E standalone version and the LinkMan-E installation simultaneously, not to mention an email program and other tools as well. Be sure to review the requirements for running Revit.

Recommended configuration for SLE and LME includes the following:

- Intel-compatible processor, 2 GHz or better
- Windows™ 8 or 7
- 4 GB of RAM recommended
- 10 GB recommended available disk space
- XGA or higher resolution monitor
- DVD reader (Corporate version of SLE only)
- Internet Explorer 8.0 or higher

No other software is required.

Downloading the software

The LinkMan-E application may be downloaded from our web page at our Download Center.

1. From our home page (www.bsdssoftlink.com) click on For Customers.
2. Click on Download Center.
3. Find the download link.
4. Save the file to a temporary folder on your computer.
5. Be sure to download the current **Release Notes**.
6. Once downloaded to your computer, close all open applications.
7. Double click on the downloaded file to start the installation.
8. Follow the instructions on-screen.

Note: The download file may be large and may take some time, depending on the speed of your connection to the Internet.

For more information on installing the software, download the **Installation Instructions** file from the same location or call Technical Support at 800-266-7732.

Running LinkMan-E over a Wide Area Network (WAN)

As an SQL application, LinkMan-E allows you to access the server part of the application over a Wide Area Network (WAN) or a Virtual Private Network (VPN). See the installation instructions on our web page for instructions on configuring your computer to run LinkMan-E over a WAN or a VPN.

Moving or Uninstalling the Software

The Master and LME Groups database part of LinkMan-E is tied to the server location of SpecLink-E, so LinkMan-E must be moved if SpecLink-E is moved. See the Installation instructions on the Download Center for detailed instructions on moving a Network Server or Standalone installation of SpecLink-E.

When you Backup or restore the databases in SpecLink-E, that includes the LinkMan-E Master and LME Groups databases.

The basic steps when you have a server and client installation include:

- Backup your databases in SLE.
- Get an Unpermit code from BSD Technical Support.
- Uninstall the BSD LinkMan-E Server Components.
- Uninstall the BSD SpecLink-E Server Components.
- Remove the SLE Client Setup folder.
- Remove the LME Setup Packages folder.
- Have each client Uninstall both BSD SpecLink-E and BSD LinkMan-E.
- Perform the server installations for SLE and LME at the new server.
- Perform the client installations for SLE and LME at each client machine, using the new location of the SLE Client Setup folder and the LME Setup Packages folder.
- Perform the Revit Plugin installation at each client machine.
- Restore the backed up databases using SLE Support Utilities (available at the server) on the Building Systems Design group on the Start Menu
- Input new EIDs.
- Have each client open Revit and use Set Server Name.

Moving the software from one Standalone machine to another.

- Backup your databases in SLE.
- Get an Unpermit code from BSD Technical Support.

- Uninstall the BSD LinkMan-E Server Components.
- Uninstall the BSD SpecLink-E Server Components.
- Uninstall both BSD SpecLink-E and BSD LinkMan-E.
- Remove the SLE Client Setup folder.
- Remove the LME Setup Packages folder.
- Perform the standalone installations for SLE and LME on the new computer.
- Restore the backed up databases (including both the SLE and the LME Masters) using SLE Support Utilities on the Building Systems Design group on the Start Menu.
- Input new EIDs.
- Open Revit and use Set Server Name.

Set Server Name

This command is available in LinkMan-E as well as Revit. Both applications should be set to the same server. In LinkMan-E it is only available when you do not have a LME Group open. Use this to redirect LinkMan-E or Revit to use a different location for the server part of the application. This might be necessary if you have moved the server part of the application to a new server.

To use Set Server Name in LinkMan-E:

- Close your open LME Group
- Click on the Tools tab
- Click on Set Server Name
- Type the server name in the Server Name / IP Address field
- Click on Save
- LinkMan-E will restart using the new server name

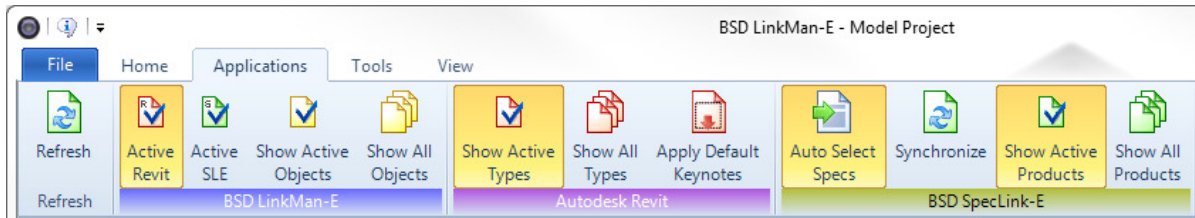
To use Set Server Name in Revit:

- Open a Revit Project
- Click on the Add-Ins tab
- Click on Set Server Name
- Type the server name in the Server Name / IP Address field
- Click on Save
- Restart Revit for the change to take effect

Port Number: Note that the Port Number for LinkMan-E is typically 9049. Contact BSD Technical Support at 800-266-7732 if you need to change the port.

Software Orientation

2010 Microsoft Office Ribbon Bar Menus



LME uses the 2010 Microsoft Office ribbon bar menus. The primary components are:

- **Application Menu** (LinkMan-E logo, on top left of application window) – includes a standard Windows menu.
- **File Menu** -- includes global commands such as New LME Group, Open LME Group, etc.
- **Ribbon** -- This is the primary placement for menus and toolbars. The Ribbon can be minimized by right-clicking on the ribbon or double-clicking on any tab name. When minimized, the ribbon bar will reappear when you click on a tab and select a function. Once you have done that, it will disappear again until you click on another tab.
- **Tabs** -- are used to organize controls in the Ribbon. An example is the Home tab, where many commonly used commands are placed. We have 4 tabs including Home, Applications, Tools, and View.
- **Groups** -- Each tab contains one or more groups. (Assemblies Dashboard is a group on the Home tab.)
- **Quick Access Toolbar** -- The Quick Access Toolbar is a row of small icons at the top of the application. You can right-click on any command to add it to the Quick Access Toolbar.
- **Help** -- The Help is accessed by clicking on the small green circle with the question mark on the top right corner of the application, or by pressing F1.

Renewal Date

The Renewal Date on the Home tab displays the subscription end date of your LinkMan-E subscription.

Tool Tips

To see what an icon or symbol means let your cursor hover over the icon or symbol, and you will see a tool tip with an explanation.

Auto-hiding the tree

The Project Tree window can be hidden so that it disappears to the left of the screen and reappears when you let the cursor hover over the tab on the left side of the application window.

- To hide the tree click on the pushpin icon in the top right of that panel.
- To view the tree, let your cursor rest on the tab and it will slide into view.
- To keep the tree in view, click on the pushpin icon again.

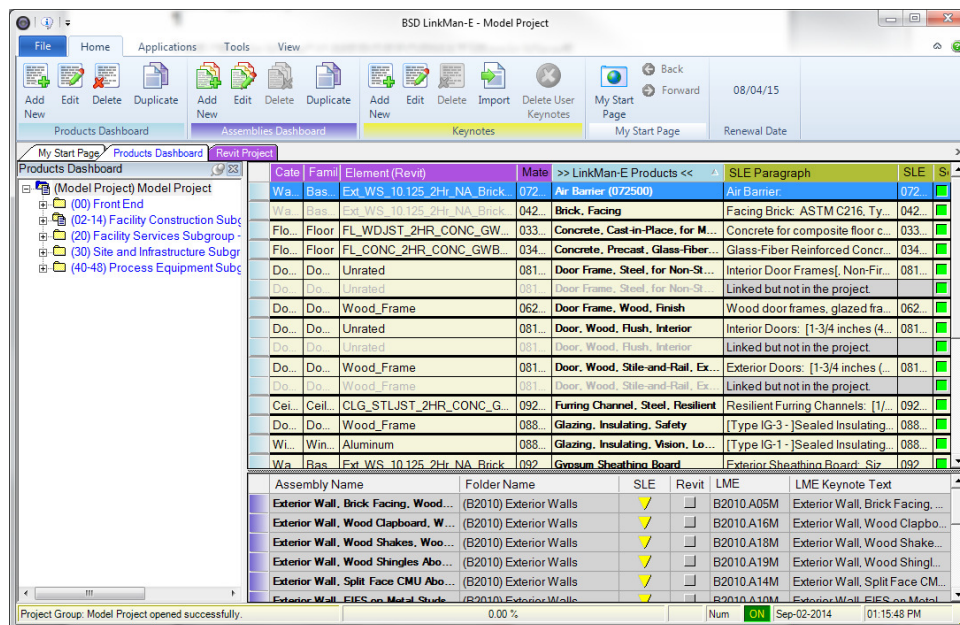
Views in the LME Project Group

These are the views in LME that display the status of objects in each of the linked applications.

- The Products Dashboard and the Assemblies Dashboard views display the status of objects across applications - allowing you to confirm discrepancies between the data in SLE and the data in Revit.
- The Revit Project view shows the status of assembly objects in the Revit project.
- The SpecLink Project view shows the status of products in the SpecLink-E project.
- The Keynotes tab displays the keynotes in the LME master database as well as those added by the user.
- The Revit Materials tab displays the materials available in the Revit project.

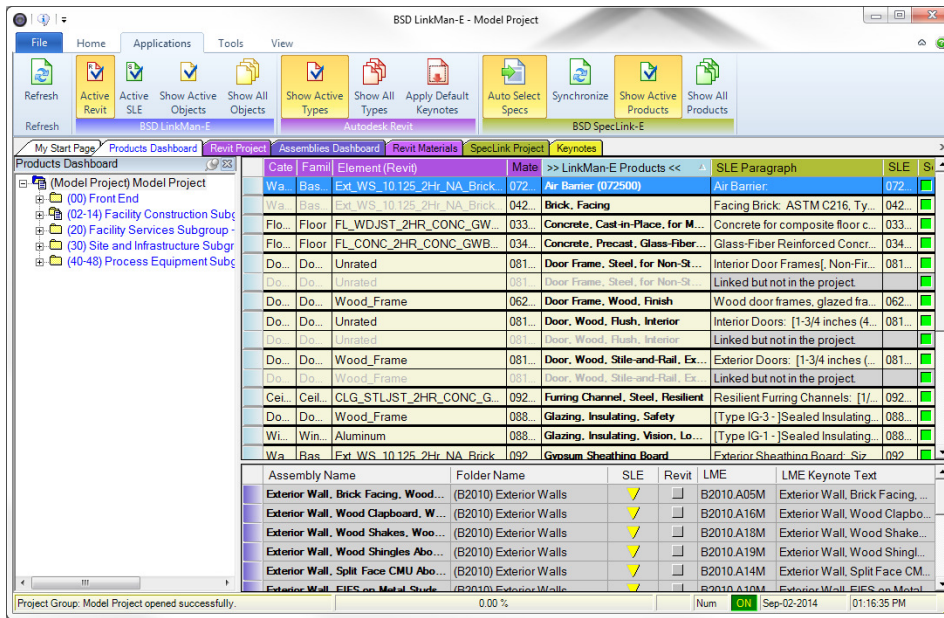
Note that in each tab, you can click on each field label to sort it in ascending or descending order. The field order may be rearranged also but will not remain in the new order the next time you open the application.

Basic View



The Basic View displays only My Start Page, Revit Project tab and the Products Dashboard. If you click on a function in the Tools tab that requires a window that isn't displayed, it will open automatically. To change to Basic View, click on the View tab and select Basic.

Advanced View



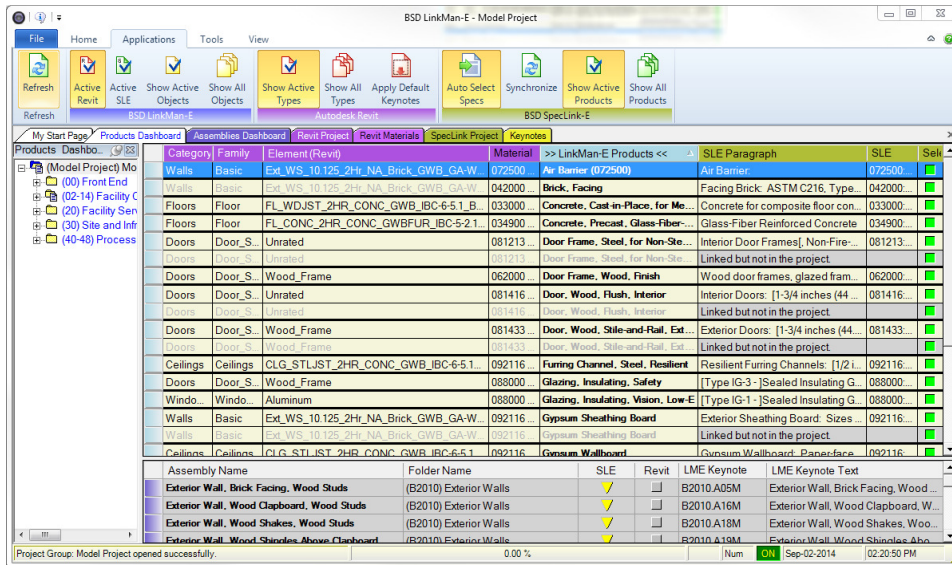
Click on the View tab and then select Advanced, to see all available tabs, including the Products Dashboard, the Revit Project tab, the Assemblies Dashboard, Revit Materials, SpecLink Project and Keynotes. Basic View and Advanced View may be toggled back and forth.

My Start Page



When you open the software, the first tab is populated by My Start Page, which opens the Building Systems Design LinkMan-E web page. This page includes the most up to date information about LinkMan-E. When you click on a link within this page, if you want to go back to the previous page, use the Back icon in the My Start Page group of the Home tab. Use the Forward icon to go in the other direction.

Products Dashboard



The Products Dashboard displays information on the linked Revit object, the Revit Material, the LME Product, and the SLE paragraph all on the same line. Each line represents a unique combination of those four.

- **White Background** - When a cell has a white background, it means that item is active. If all cells in a row have a white background, then those items are linked together and are active across the board.
 - **Mixed** - If one part of the line has a white background and another part of the line has a grey background, then that indicates a discrepancy, which should be investigated.
 - **Not Linked to the LME Object** - If a Revit Object is active in the Revit project but is not linked in LME, it will say "Not Linked to the LME Object" in red.
 - **Linked but not in the Project** – There is a link associated with this Product, but the Revit Object is not in the Revit Project or the SLE Paragraph is not in the SLE Project.
 - **Empty Cell** - If a cell is completely empty, that means that there is no link to that application from the product.
- **Boldness of lines:** If the same LME Product is linked to multiple Revit Objects, for example, then the product will be listed multiple times, divided by a thinner black line. When the line changes to a new LME Product, then there will be a darker line dividing it from the product above and below it. As you change the sort order of the records, the thickness of the lines will change, depending on where there are multiples of the records in the column that is being used for sorting.
 - Clicking on a column header will sort the records by that column. When you have done this, the entire column becomes bold to indicate that you are sorting on that column. The three Revit columns (Category, Family and Type) sort together as one column.
 - The column headers are color coded to help you to differentiate between the Revit information (fuchsia), the LinkMan-E information (Products are light blue, Assemblies are purple), and the SpecLink-E information (green). The colors of the headers coordinate with the colors of the tabs above. As you click from tab to tab, the active tab will have a white background.

- If you cannot read all of the text in any column, you can either drag the column wider, or allow your cursor to hover over what you are trying to read. The full text will appear in the tooltip.
 - To see only elements that are active in the Revit Project click on **Active Revit** in the BSD LinkMan-E group on the Applications tab.
 - To see only PL and PP tagged paragraphs that are active in the SLE Project click on **Active SLE**.
 - To see only records that are active in at least one of the linked applications click on **Show Active Objects**.
 - To see all products whether they are active in any linked applications, click on **Show All Objects**.
- Products Dashboard Tree - You must click on a specific folder to see the Products within that folder. If you click on the Facility Construction Subgroup folder in the Products Dashboard Tree, which is organized by MasterFormat 2004/12+, you will see all of the products in divisions 2 through 14. If you click on a lower level folder in the Tree, you will see only those products linked to objects under that folder.
- Left most box - The left most box will be in dark blue if the Product has been added by the user.

Note that the fields below may be rearranged by dragging the column header right or left and dropping it where desired.

Revit information (fuchsia)

- **Category** - The Revit Category for the Revit Object that is linked to the highlighted product.
- **Family** - The Revit Family for the Revit Object that is linked to the highlighted product.
- **Revit Element** - The Revit Object that is linked to the highlighted product.
- **Revit Material** - The Revit Material applied to the Revit Object that is linked to the highlighted product.

LinkMan-E Product (light blue)

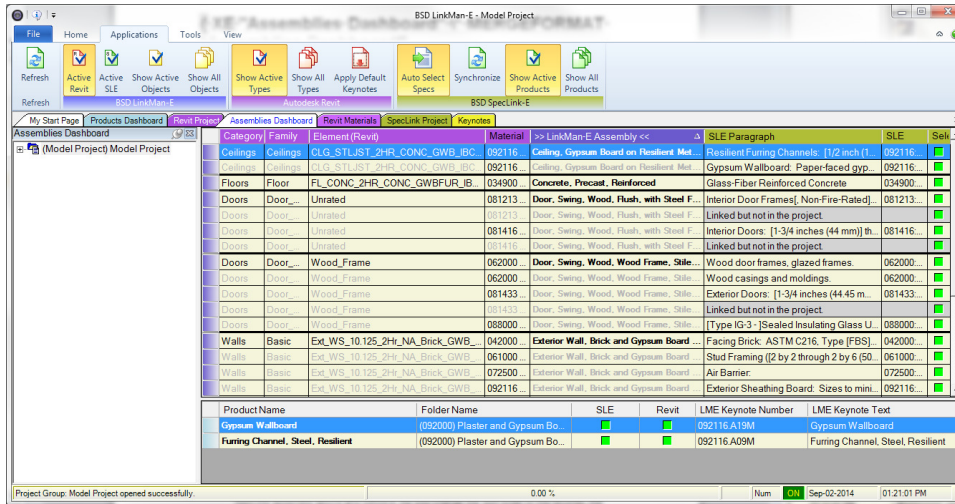
- **LinkMan-E Products** - This is the description of the product in the LME database.
- **Assembly Name** - The bottom panel displays the assemblies that contain the currently highlighted product. See Assemblies Dashboard for more information about the assemblies.
- **Note:** If a Revit Object is active and there is no associated product to which it is linked, this column will say Not Linked to LME Object.

SpecLink-E information (green)

- **SLE Paragraph** - The text of the SLE paragraph that is linked to the highlighted product.
- **SLE Section** - The SLE Section ID and Sequence number of the SLE paragraph that is linked to the highlighted product.
- **Select Specs**
 - A green background in this column indicates that the SLE paragraph has been selected by the Auto Select Specs command.
 - A checkmark in this column indicates that this SLE paragraph has been selected by a single click to initiate links to activate text in the SpecLink-E project. Note that if the same SLE paragraph is listed multiple times in this window, selecting one will appear to select them all.
 - An X in this column indicates that the user has elected to exclude that paragraph within the SLE Project.

- A white background in this column indicates that there will be no link action taken on the target of this product.
- See Activating SLE paragraphs and sections. Once the SLE paragraphs have been selected or excluded, the next step would be to Synchronize.

Assemblies Dashboard



If the Assemblies Dashboard is not visible, click on the View tab and select Advanced.

The Assemblies Dashboard displays information on the linked Revit object, the Revit Material, the LME Assembly, and the SLE Paragraph all on the same line. Each line represents a unique combination of those four.

- **White Background** - When a cell has a white background, it means that item is active. If all cells in a row have a white background, then those items are linked together and are active across the board.
- **Mixed** - If one part of the line has a white background and another part of the line has a grey background, then that indicates a discrepancy, which should be investigated.
- **Not Linked to the LME Object** - If a Revit Object is active in the Revit project but is not linked in LME, it will say "Not Linked to the LME Object" in red.
- **Linked but not in the Project** - There is a link associated with this Assembly, but the Revit Object is not in the Revit Project or the SLE Paragraph is not in the SLE Project.
- **Empty Cell** - If a cell is completely empty, that means that there is no link to that application from the assembly.
- **Boldness of lines:** If the same LME Assembly is linked to multiple Revit Objects, for example, then the assembly will be listed multiple times, divided by a thinner black line. When the line changes to a new LME Assembly, then there will be a darker line dividing it from the assembly above and below it. As you change the sort order of the records, the thickness of the lines will change, depending on where there are multiples of the records in the column that is being used for sorting.
- Clicking on a column header will sort the records by that column. When you have done this, the entire column becomes bold to indicate that you are sorting on that column. The three Revit columns (Category, Family and Type) sort together as one column.
- The column headers are color coded to help you to differentiate between the Revit information (fuchsia), the LinkMan-E information (Products are light blue, Assemblies are purple), and the SpecLink-E information (green). The colors of the headers coordinate with the colors of the tabs above. As you click from tab to tab, the active tab will have a white background.
- If you cannot read all of the text in any column, you can either drag the column wider, or allow your cursor to hover over what you are trying to read. The full text will appear in the tooltip.

- To see only elements that are active in the Revit Project click on **Active Revit** in the BSD LinkMan-E group on the Applications tab.
- To see only PL and PP tagged paragraphs that are active in the SLE Project click on **Active SLE**.
- To see only records that are active in at least one of the linked applications click on **Show Active Objects**.
- To see all assemblies whether they are active in any linked applications, click on **Show All Objects**.
- **Assemblies Dashboard Tree** - You must click on a specific folder to see the assemblies in that folder. If you click on the SHELL folder in the Assemblies Dashboard Tree, which is organized by the UniFormat breakdown, you will see all of the assemblies within the SHELL folder and any subfolders. If you click on a lower level folder in the Assemblies Dashboard Tree, you will see only those assemblies linked to objects under that folder or below it.
- **Left most box** - The box to the left of the Assembly Name will be shaded in solid purple if the Assembly has been added by the user.

Note that the fields below may be rearranged by dragging the column header right or left and dropping it where desired.

Revit information (fuchsia)

- **Category** - The Revit Category for the Revit Object that is linked to the assembly in this row.
- **Family** - The Revit Family for the Revit Object that is linked to the assembly in this row.
- **Element** - The Revit Object that is linked to the assembly in this row.
- **Material** - The Revit Material applied to the Revit Object that is linked to the assembly in this row.

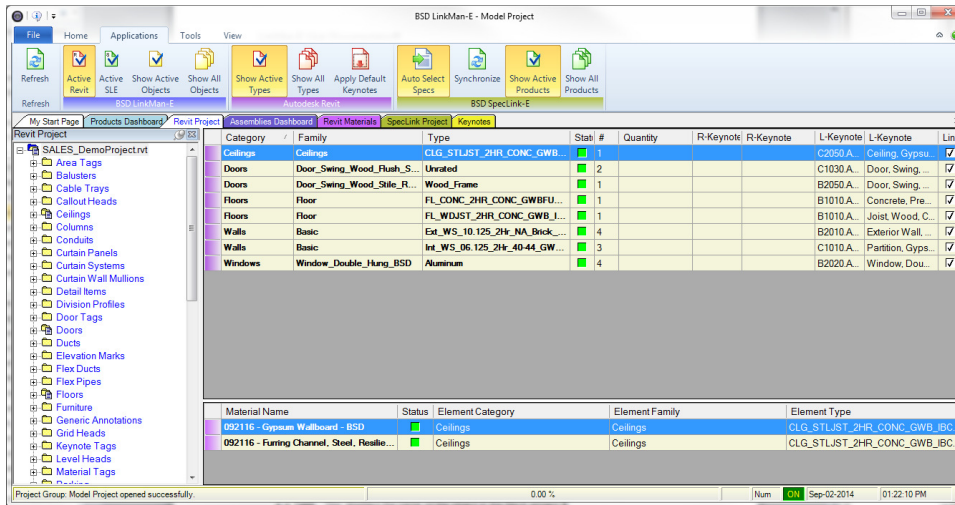
LinkMan-E Assembly (purple)

- **LinkMan-E Assembly** - This is the description of the assembly in the LME database.
- **Product Name** - The bottom panel displays the products that are contained the currently highlighted assembly. See Products Dashboard for more information about the products.
- **Note:** If a Revit Object is active and there is no associated assembly to which it is linked, this column will say Not Linked to LME Object.

SpecLink-E information (green)

- **SLE Paragraph** - The text of the SLE paragraph that is linked to the assembly in this row.
- **SLE Section** - The SLE Section ID and Sequence number of the SLE paragraph that is linked to the assembly in this row.
- **Select Specs**
 - A green background in this column indicates that the SLE paragraph has been selected by the Auto Select Specs command.
 - A checkmark in this column indicates that this SLE paragraph has been selected by a single click to initiate links to activate text in the SpecLink-E project. Note that if the same SLE paragraph is listed multiple times in this window, selecting one will appear to select them all.
 - An X in this column indicates that the user has elected to exclude this paragraph within the SLE Project.
 - A white background in this column indicates that there will be no link action taken on the target of this product.
 - See Activating SLE paragraphs and sections. Once the SLE paragraphs have been selected or excluded, the next step would be to Synchronize.

Revit Project Tab



The Revit Project tab displays data about Revit objects that are present and active in the Revit project, as well as objects that are included in the LME master data.

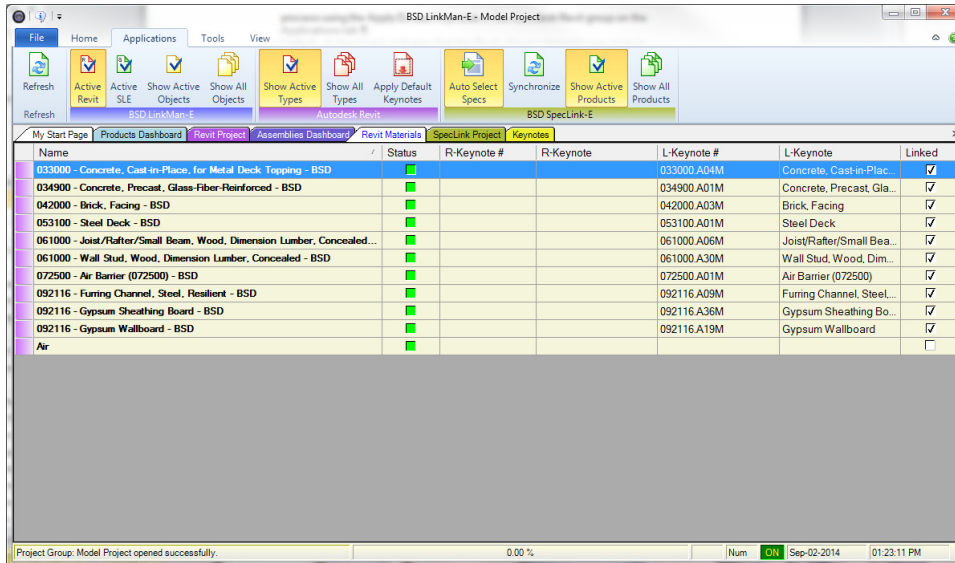
- **Revit Project Tree** - The folders in the Revit Project Tree reflect the hierarchy of the Revit project. Click on the plus sign to see sub-folders below higher level folders. When you click on a folder, the status columns to the right reflect the condition of the assemblies within that folder. If you click on the very top folder (Revit project name) you will see all objects in Revit, depending on your setting of Active Revit, Active SLE, Show All Types or Show Active Types.

Note that the fields below may be rearranged by dragging the column header right or left and dropping it where desired.

- **Category and Family** - These fields come from the hierarchy in the Revit project.
- **Type** - This displays the name of the object in the Revit project.
- **Status** - The lighter background and green color in the Status column indicate that the assembly is present in the Revit project.
- **#** - This displays the number of instances of this assembly in the Revit project.
- **Quantity** - This column shows the total quantity for all of the instances of this assembly.
- **R-Keynote #** - Displays the keynote number for the keynote that is currently assigned -- or the keynote that is ready to be assigned by LME.
- **R-Keynote** - Displays the keynote text for the keynote that is currently assigned -- or the keynote that is ready to be assigned by LME.
- **L-Keynote #** - Displays the keynote number for the keynote that is currently assigned to the LME object this Revit element is currently linked to. This is a suggested keynote from the LME master or from an LME object that you have created. This keynote number can be transferred to the R-Keynote column singly (with a right mouse button click) or as a batch process using the Apply Default Keynotes in the Autodesk Revit group on the Applications tab.
- **L-Keynote** - Displays the keynote text for the L-Keynote # described above. This can be transferred to the R-Keynote column singly (with a right mouse button click) or as a batch process using the Apply Default Keynotes in the Autodesk Revit group on the Applications tab.

- **Linked** - A checkmark indicates that this Revit object is linked to one or more assemblies. A yellow triangle background indicates that this Revit object is linked to more than one assembly. Right click on a Revit Object to view the links. Objects included in the master database are linked already. User added Assemblies and Products need to be linked by the user. See linking user added products and assemblies.
- **Materials** - When each Revit object is highlighted, any related Materials will be displayed in the bottom part of the right hand window.

Revit Materials Tab



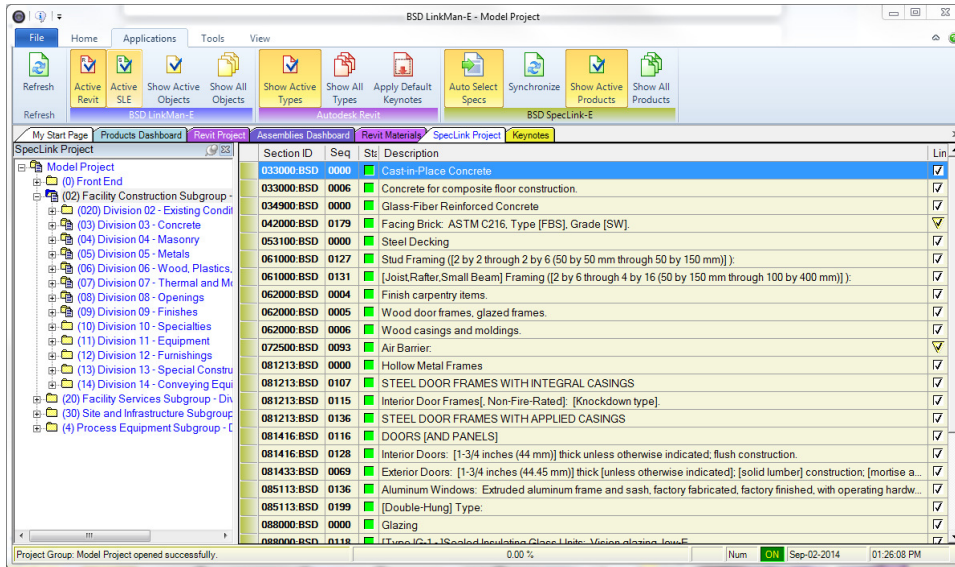
If the Revit Materials tab is not visible, click on the View tab and select Advanced.

The Revit Materials tab displays all of the materials available in the Revit project. Since Revit only stores the keynote number in the object (not the keynote text) the R-Keynote column may be empty if a keynote was applied in Revit, but that keynote file was not imported into LME. In LME, keynotes can be applied to materials, as well as Revit objects. In LME, you can drag and drop from the Keynotes tab to the Materials tab, in the same way that you can drag and drop Keynotes onto an element in the Revit project tab. In addition to the Revit Materials tab, the associated materials are also displayed in the bottom half of the screen when you click on a Revit element that has a material assigned to it.

- To display only Revit Materials that are associated with active Revit objects, click on Show Active Types.
- To display all available Revit Materials for your Revit Project, click on Show All Types.

Materials associated with active Revit objects will have a green background in the Status column.

SpecLink Project Tab



If the SpecLink Project tab is not visible, click on the View tab and select Advanced.

The SpecLink Project tab displays the status of the products in the specification.

SpecLink Project Tree - The SpecLink Project Tree reflects the hierarchy of the SpecLink-E project. Click on the + sign to see sub-folders under higher level folders. When you click on a folder, the status columns to the right reflect the condition of the products within that folder. If you click on the project name (top folder in the tree) you will see all of the products for the project (depending on your setting of Show All Products or Show Active Products). Paragraphs that are tagged as PL or PP in SpecLink-E will appear in the SpecLink Project tab. SLE paragraphs will not appear in the SpecLink Project Tab until something has been activated in that section, or you have opened that section in SLE. A page icon in the tree indicates that the folder contains a link within the LME Group. It may be a link to exclude, rather than include, a section, so the page icon in LME is different than the page icon in SLE in that it does not always represent an active section in the SpecLink-E project.

- **Left most box** - The box to the left of the Section ID will be shaded in blue if the SpecLink-E paragraph is a user added paragraph or a user modified master paragraph.

Note that the fields below may be rearranged by dragging the column header right or left and dropping it where desired.

- **Section ID** - This column displays the Section ID and acronym for the section that contains the paragraph in SLE that references this product.
- **Seq#** - This column displays the sequence code from the paragraph in SLE that references this product.
- **Status** - The lighter color background and the green color indicates that this product is specified in the SLE project.
 - A gray status box indicates that this paragraph is not active in the SLE project.
 - A yellow triangle indicates that this product has a yellow link in the SLE project. but is not active.
 - A red stop sign indicates that this product is excluded in the SLE project.

- **Description** - This column displays the text of the paragraph in the SLE project.
- **Linked** - A checkmark in the Linked column indicates that the product has been linked to an object in LME. Products that are included in the master database are linked already. Right click on a line to see the link for that product. A SLE paragraph can only be linked to one Product. User added Products need to be linked by the user. See linking user added products and assemblies.

See Keynotes section later in this manual for a description of the fields in the Keynotes tab.

How To....

Start a new LME Group

Starting a New LinkMan-E Group

To start a new LME Group:

1. From the File menu choose New LME Group.
2. Enter a name for your new LME Group and click Create.
3. The new LME Group will be created and the Products Dashboard, the Assemblies Dashboard, and the Keynotes tab will open.

To connect your new group to a SpecLink-E project use Connect SpecLink-E Project.
To connect a Revit project to your new group, see Connect Revit Project to your LME Group.

LME Group Naming

The name of the LME Group (the name you enter when you first create the LME Group) should be a meaningful name that is easily recognized by other team members. The LME Group name is visible to others using the same LME Groups database that you are.

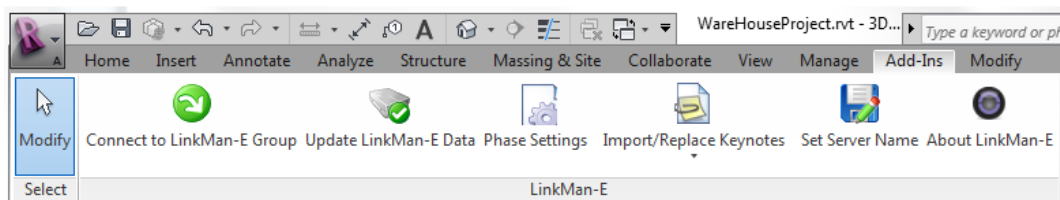
System Group ID

Each time you create a new LME Group, the software assigns a unique System Group ID, which can help you to distinguish between groups with the same or a similar name. In many cases, this System Group ID follows the LME Group Title to help you identify your project.

Connect your Revit Project to your LME Group

To connect a Revit project to your LME Group:

1. Open Revit.
2. Open the Revit project that you wish to connect to your LME Group.
3. Click on the Add-Ins tab/LinkMan-E Group and select Connect to LinkMan-E Group.
(Note: If the LinkMan-E group on the Add-ins menu does not appear available, you may need to click on the Modify button or change your Revit project to the default 3D view on the View tab.)



4. After selecting the LME Group and clicking OK, you will receive a confirmation that the Revit Project has been connected to the LME Group.

5. If you want to restrict the data sent to LME to only certain phases, see Phase Settings below.
6. In the LinkMan-E group in Revit, click on Update LinkMan-E data.
7. You will receive a confirmation that the data has been successfully updated.
8. In LME, click on Refresh in the Applications tab.

A Revit project may connect to only one SLE project at a time. When you select Connect to LinkMan-E Group, if the Revit Project is already connected to an LME Group, the currently connected LME Group will be highlighted. You can select another LME Group.

Revit Menu Commands

The following commands are available from within your Revit Project. To use the commands, click on the Add-Ins tab/LinkMan-E Group.

- Connect to LinkMan-E Group
- Update LinkMan-E Data - This command sends the most current information from this Revit project to the LME Group with which this project is connected. Use this command any time you have made changes to your Revit project that need to be reflected in your LME group. You will receive a confirmation when the process is complete.
- Phase Settings - This allows you to restrict the data that goes to LME by phase. See the next topic for more information.
- Import/Replace Keynotes - This brings the LME Keynote information into your Revit project. For more information, see the Keynote section later in this manual.
- Set LinkMan-E Server Name
- About LinkMan-E - This displays the current version of LME, as well as the server location

Note: If the LinkMan-E group on the Add-ins menu does not appear available, you may need to click on the Modify button or change your Revit project to the default 3D view on the View tab.

Phase Settings

If you are using Phases in your Revit project, you can indicate which phases should be included in your LME group. Do this before you send the data to your LME Group using Update LinkMan-E Data.

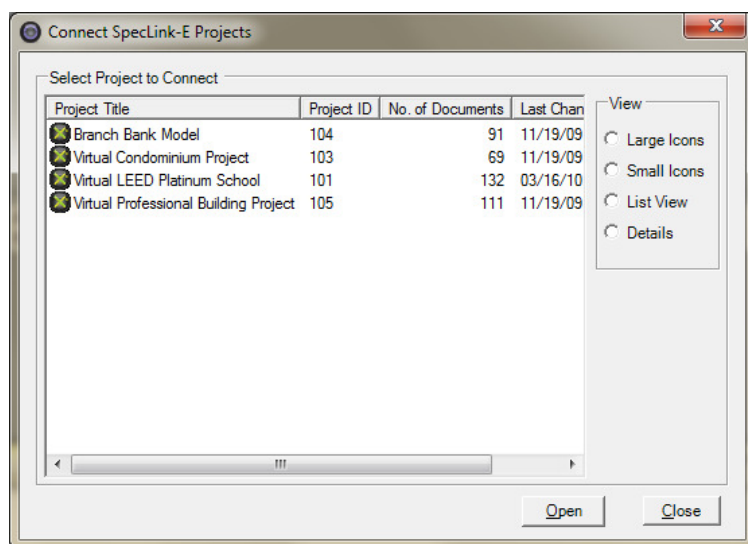
- In Revit, open the Revit project that is linked to your LME Group.
- Click on the Add-ins tab.
- In the LinkMan-E group, select Phase Settings.
- If you are using linked Revit projects, you will see each project on a separate line.
- In the First Phase Included, select the phase that is the earliest that should be included in the data sent to LME.
- In the Last Phase Included, select the phase that is the latest phase that should be included in the data sent to LME.
- This setting can be changed at any time.
- Click Apply.
- This must be followed by Update LinkMan-E Data.
- To see the changes in the LME Group, use Refresh while in LME.

Note: If you are opening a Revit project from a previous version, you must save it in your current Revit version before using this command.

Linked Revit Projects

When you have linked two or more Revit projects together, and have connected to your LME Group from the host project, you can see the elements from all of the linked projects. The data from all linked projects will be sent to LME when using Update LinkMan-E Data. Linked projects can also be handled individually when using Phase Settings.

Connect SpecLink-E Project



To connect a SpecLink-E project to your LME Group:

1. Have your LME Group open.
2. From the File menu choose Connect SpecLink-E Project.
3. Select the project to connect and click on Open.
4. The selected SpecLink-E project will be connected to your LME Group.

Note: If your LME Group is currently connected to an SLE Project, you need to use Disconnect SpecLink-E Project first.

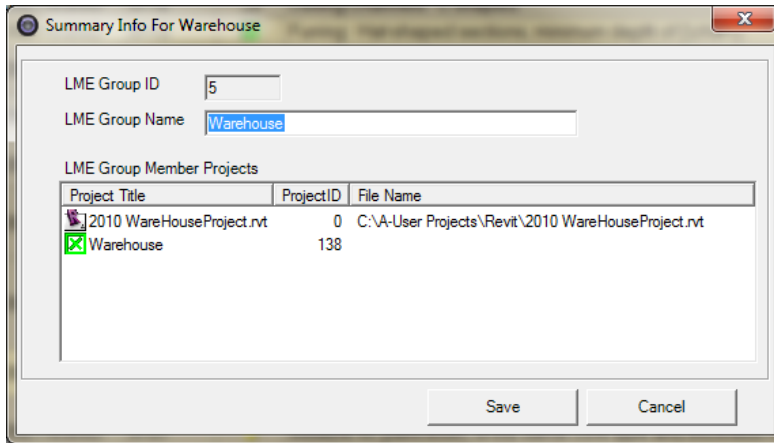
Disconnect SpecLink-E Project

To disconnect a SpecLink-E project from your LME Group:

1. From the File menu choose Disconnect SpecLink-E Project.
2. To connect a different project, use Connect SpecLink-E Project.

Before Disconnecting your SLE project, you might want to deactivate the links to that project.

Summary Info



To open the Summary Info dialog box, click on Summary Info from the File menu or click the Summary Info icon on the Quick Access toolbar.

Here you can view the:

- LME Group ID
- LME Group Name
- LME Group Member Projects

To change the Group Member projects, see [Connect SpecLink-E Project](#) and/or [Connect to Revit Project](#).

Open LME Group

To open an existing LME Group:

1. From the File menu choose Open LME Group, or select the name of the group from the list of Recent Groups that appears to the right of the menu. Groups that have been opened on this computer are listed. If the Group you want to open is not listed, click Open LME Group from the File menu button to find it.
2. When the selection dialog box opens, click on the name of the group and click Open.

Tips:

- If you are not sure which LME Group you want to open, click the Details option on the right. The LME Group Name, System Group ID (assigned by the software noted in parentheses) and last edited date will appear for all groups. You can sort by any of these columns by clicking on the column label at the top.

Close LME Group

To close the LME Group without exiting the program:

1. Click on the File menu.

2. Choose Close LME Group.

To close the LME Group and exit the software at the same time:

1. Click on the X in the top right corner of the application.

LME Groups Database

Your LinkMan-E Groups are stored in a single database, in the same location as your SpecLink-E Projects Database. In a multi-user situation, this database will be on a server to which all users have access. The database location is determined during the SpecLink-E installation process. The LME Groups database also stores any user added Products, Assemblies and links.

The LME Groups database has a size limitation of 8 GB with an SLE Professional installation. The database size is unlimited with a Corporate SLE installation.

Basic Steps

The basic steps to review and modify relationships between your Revit and SpecLink-E projects include:

1. Create a new LinkMan-E Group.
2. Connect to your SpecLink-E project.
3. Connect your Revit project to the LME Group.
4. Click on the Assemblies Dashboard to view the LME assemblies and their status in both the Revit and the SpecLink-E projects.
5. Use Active Revit, Active SLE, Show Active Objects and Show All Objects as needed.
6. Click on the Products Dashboard to view the LME Products and their status in both the Revit and the SpecLink-E projects.
7. Use Show All Products, Show Active Products, Auto Select Specs, Activate SLE paragraphs and sections and Synchronize as needed.

To make use of the Keynote Management System, see Revit Keynote Management System and Revit Keynote Management Basic Steps.

The basic steps for adding to the LME database are:

1. Create Products as needed.
2. Create Assemblies as needed.
3. Add links as needed.

Activating SpecLink-E paragraphs and sections

LinkMan-E can be used to make selections of paragraphs and sections in SpecLink-E. To turn on paragraphs in SLE:

1. The SLE paragraph to become activated must be tagged as PL (Product Listing) or PP (Proprietary Product). This can be a master paragraph or a user added or copied paragraph that has been tagged as PL or PP, either by BSD or you. For more information on tagging paragraphs in SLE, see Creating a Link from an LME Product to a SpecLink-E Section.

2. The SLE paragraph must be linked to an LME Product, but that Product does not have to be in an assembly or linked to a Revit Product.
3. Click on the Products or Assemblies Dashboard.
4. To activate the SLE paragraphs that are linked to Revit Objects (through Products and Assemblies) you can use Auto Select Specs.
5. To activate other SLE paragraphs, you can place a checkmark in the Select Specs column.
6. To exclude an SLE paragraph, place an X in the Select Specs column. Click twice in the Select Specs column to place an X.
7. To remove all green squares in the Select Specs column, returning the boxes to neutral, toggle Auto Select Specs off.
8. To implement the links in SLE, click on Synchronize.

If an SLE paragraph is turned on due to a link from LME, the same link will be applied to the parent of the paragraph, all the way to the top of the section, turning on the section if necessary. If any of the intervening parents is subject to an Exclude condition, the chain will be broken just as in downward linking scenarios. To see the effects in your SLE project, you may need to click on Refresh Tree in the Project Tree tab. If any affected sections are checked out, they will need to be checked in for the LME links to take effect. Note that a user checkmark or X on an SLE paragraph will override any links from LME.

Deactivating links in your SpecLink-E Project

If you no longer wish the links from LME to activate any sections in your SLE project, follow these steps:

- Deselect Auto Select Specs so that the Select column is blank.
- Alternatively, you can place an X in the Select Column.
- Click on Synchronize.
- If desired, you can Disconnect the SLE project from LME.
- In your SLE project, you may need to Refresh the Project Tree or Rebuild Document Links.

Manage Groups

Rename Group

To rename a group, open the Summary Info dialog box from the Quick Access Toolbar or the File menu. Type in the new name in the LME Group Name field and click Save.

Saving Your Work

Changes made in your SpecLink-E projects and Revit projects are saved in those applications. Changes made within your LME Groups are saved automatically to the LME Groups Database where your LME Groups are stored. User added Products, Assemblies, Links and Keynotes are also stored in the LME Groups Database.

When you make a backup of your SpecLink-E databases in SpecLink-E, that backup will include the LME Groups and LME Master database.

Backing up and Restoring the Databases

Backup Databases and Restore Databases must be performed in SLE Support Utilities on the Building Systems Design, Inc. group command. Backing up the SpecLink-E databases will include the LinkMan-E Master and LME Groups databases.

When you restore the SpecLink-E project database the LME Groups database will be included if it existed when the backup was created.

Note that if you Archive an SLE project that is connected to an LME Group, when you Activate it, you will need to reconnect it to your LME Group to continue to work with it in LME.

For more information, see the SLE Help topics of Backup and Restore.

Delete LME Group

To permanently remove a group from your LME Groups database:

1. With your LME Group closed, from the File menu choose Delete LME Group.
2. When the dialog box opens, select the Group to delete.
3. Click Remove.
4. You will be asked to confirm the deletion.

Note that deleting an LME Group deletes only the LME information about the connected projects but deletes nothing in either the SpecLink-E project or the Revit project.

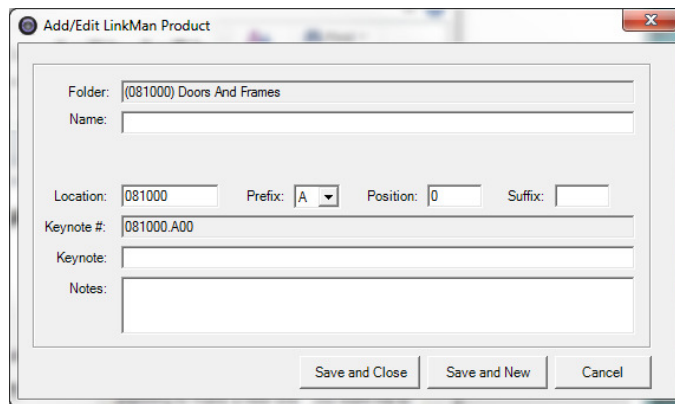
Add to the LME database

Add New Product

To create a new product:

1. Click on the Products Dashboard.
2. Highlight the folder in the tree where the product should be.
3. Click on the Home tab.
4. Click on Add New from the Products Dashboard group.

Alternatively, if there are Products in the right hand panel, you can right click on an existing Product and choose Create New Product.



5. Note: You can click on Add New Product from any tab. The software will automatically move you to the Products Dashboard and open the Add/Edit Product form. You can simply click in the Folder field and change the folder location by navigating the tree that opens.
6. Fill in the information on the Add/Edit LinkMan Product form:
 1. Folder - Filled in automatically, but can be changed to move the product to a different folder. Click on the field to bring up the Folder Selection Form to select a different folder in the project. Double click on the newly selected folder to bring it into the Add/Edit Product form.
 2. Name - Fill in the Product name.
 3. Location, Prefix, Position, Suffix - These fields combine to form the Keynote #:
 4. Keynote # - Filled in by the software, based on the combination of the fields above.
 5. Keynote - Enter associated Keynote text. If you tab through this field, it will be filled in with the Product Name.
 6. Notes - Fill in any additional notes about this product.
7. Click Save and Close to save the product and close the form.
8. Click Save and New to save the product and create another new one.
9. Click Cancel to close the form without saving the changes to the last record you were on.

Note: If you are not displaying all objects, and you add a new Product, Assembly or Keynote, the display will change to Show All Objects automatically, so you can see your newly added object.

Duplicate Product

To make a copy of an existing product:

1. Click on the Products Dashboard.
2. Highlight the folder in the tree that contains the product that you want to copy.
3. Click on the product to be copied.
4. From the Home tab, Products Dashboard group, click on Duplicate.
Alternatively, right click on the product and choose Duplicate Product.
5. The Add/Edit Product form opens and you can make any required changes to the product, including moving it to a different location in the Products Dashboard tree by clicking on the Folder field and selecting a different folder.

View/Edit Product

Master Products may be viewed and user added or copied products may be changed. To edit an existing user added product:

1. Click on the Products Dashboard.
2. Highlight the folder in the tree that contains the product that you want to view or edit.
3. Click on the product.
4. From the Home tab, Products Dashboard group, click on Edit.
Alternatively, right click on the product and choose View/Edit Product.
5. The product form opens and you can make any required changes to the product, including moving it to a different location in the Products Dashboard tree by clicking on the Folder field and selecting a different folder.

Notes

Notes may be added on user added products and user added assemblies.

Delete Product

You can only delete user added Products. To delete a user added Product:

1. Click on the Products Dashboard.
2. Highlight the folder in the tree that contains the Product you wish to delete.
3. Click on the Product.
4. From the Home tab, Products Dashboard group, click on Delete. Alternatively, right click on the product and choose Delete Product.
5. Click Yes to confirm the deletion.

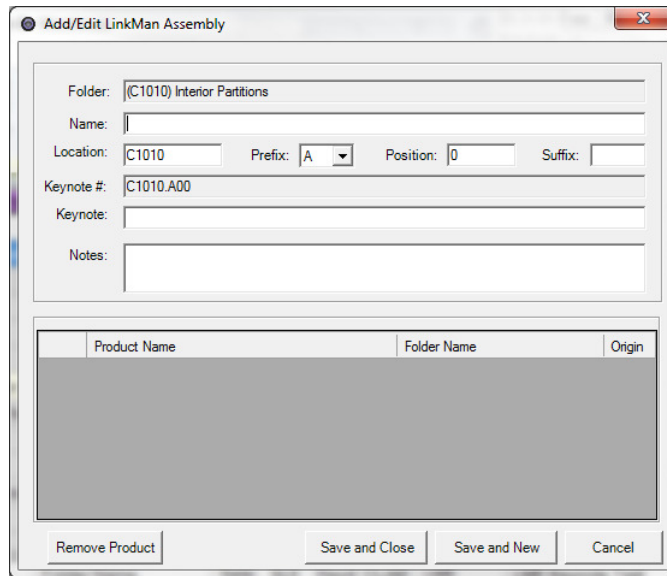
Add New Assembly

To create a new assembly:

1. Highlight the folder in the tree where the assembly should be.
2. Click on the Home tab.

3. Click on Add New from the Assemblies Dashboard group.

Alternatively, if there are Assemblies in the right hand panel, you can right click on an existing Assembly and choose Create New Assembly.



4. Note: You can click on Add New Assembly from any tab. The software will automatically move you to the Assemblies Dashboard and open the Add/Edit Assembly form. You can simply click in the Folder field and change the folder location by navigating the tree that opens.
5. Fill in the information on the Assembly form:
 1. Folder - Filled in automatically, but can be changed to move the assembly to a different folder. Click on the field to bring up the Folder Selection Form to select a different folder in the project. Double click on the newly selected folder to bring it into the Add/Edit Assembly form.
 2. Name - Fill in the Assembly name.
 3. Location, Prefix, Position, Suffix - These fields combine to form the Keynote #.
 4. Keynote # - Filled in by the software, based on the combination of the fields above.
 5. Keynote - Enter associated Keynote text. If you tab through this field, it will be filled in with the Assembly Name.
 6. Notes - Fill in any additional notes about this assembly.
6. Click Save and Close to save the assembly and close the form.
7. Click Save and New to save the assembly and add another assembly.
8. Click Cancel to close the form without saving the changes to the last record you were on.
9. To add Products to the assembly see Add Products to Assembly.

Note: Note: If you are not displaying all objects, and you add a new Product, Assembly or Keynote, the display will change to Show All Objects automatically, so you can see your newly added object.

Duplicate Assembly

To make a copy of an existing assembly:

1. If the Assemblies Dashboard is not visible, click on the View tab and select Advanced.

2. Click on the Assemblies Dashboard.
3. Highlight the folder in the tree that contains the assembly that you want to copy.
4. Click on the assembly to be copied.
5. From the Home tab, Assemblies Dashboard group, click on Duplicate.
Alternatively, right click on the assembly and choose Duplicate Assembly.
6. The assembly form opens and you can make any required changes to the assembly, including moving it to a different location in the Assemblies Dashboard tree by clicking on the Folder field and selecting a different folder.

View/Edit Assembly

Master assemblies may be viewed and user added or copied assemblies may be changed. Note that changing an assembly will change it in all of the LME Groups associated with that assembly.

To view or edit an existing user assembly:

1. If the Assemblies Dashboard is not visible, click on the View tab and select Advanced.
2. Click on the Assemblies Dashboard.
3. Highlight the folder in the tree that contains the assembly that you want to view or edit.
4. Click on the assembly.
5. From the Home tab, Assemblies Dashboard group, click on Edit.
Alternatively, right click on the assembly and choose View/Edit Assembly.
6. The assembly form opens and you can make any required changes to the assembly, including moving it to a different location in the Assemblies Dashboard tree by clicking on the Folder field and selecting a different folder.
7. You can remove a product from an assembly by clicking on it and choosing Remove Product.
8. You can also Add Products to an Assembly.

Delete Assembly

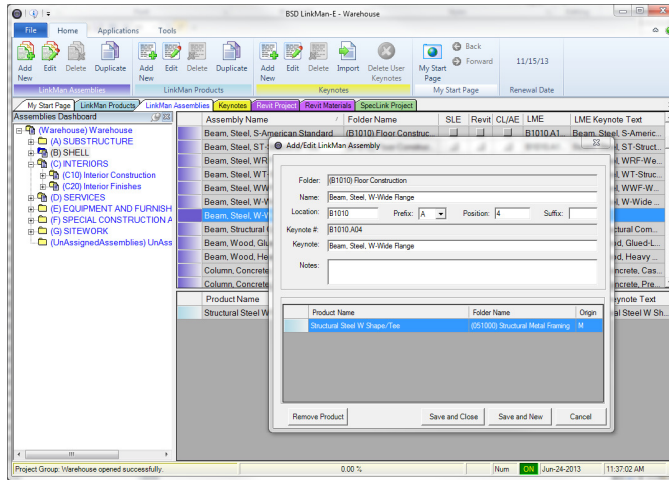
You can delete user added assemblies only. To delete a user added assembly:

1. If the Assemblies Dashboard is not visible, click on the View tab and select Advanced.
2. Click on the Assemblies Dashboard tab.
3. Highlight the folder in the tree that contains the assembly you wish to delete.
4. Click on the assembly.
5. Click on Delete in the Assemblies Dashboard group on the Home tab. Alternatively, right click on the assembly and choose Delete Assembly.
6. Click Yes to confirm the deletion.

Add Products to Assembly

When you have created a new assembly, use the following steps to add products to the assembly:

1. Click on the Tools tab.
2. Select Add Product to Assembly. LME will automatically set the windows up for this process.
3. Right click on the assembly and choose View/Edit Assembly.



4. In the Products Dashboard, find and click on the Product you want to add to the assembly.
5. Drag and drop the product into the Products window on the bottom part of the assembly form.
6. Repeat the steps for as many products as needed for this assembly.
7. If you add a Product by mistake, click on the product in the Assembly form and click on Remove Product.
8. Click Save and Close when done.

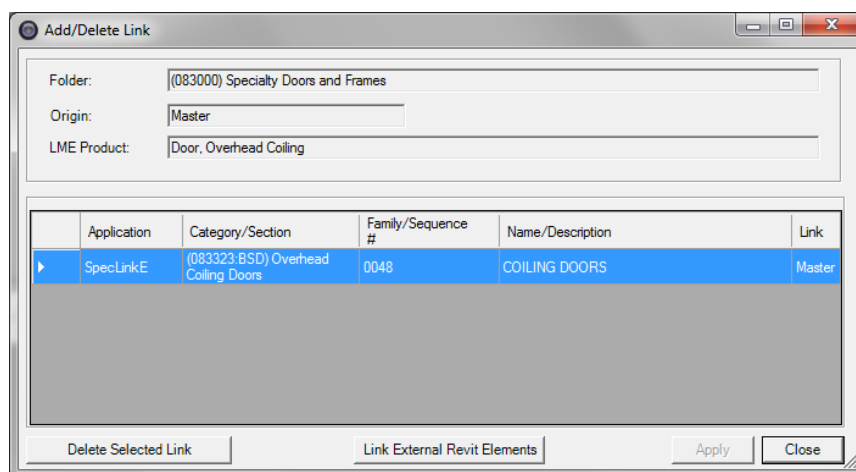
Links

Viewing Links

You can view links that are supplied with the LME database, as well as links that you have added. In the Products and Assemblies Dashboards, right click on the Product or Assembly and choose Edit Links. In the Revit or SpecLink Project tabs, right click on the Revit object, Revit Material or SLE paragraph and choose View Links. The Add/Delete Link dialog box opens.

You can resize the dialog box to see more information.

The dialog box display will change, depending on which record type you are highlighting:



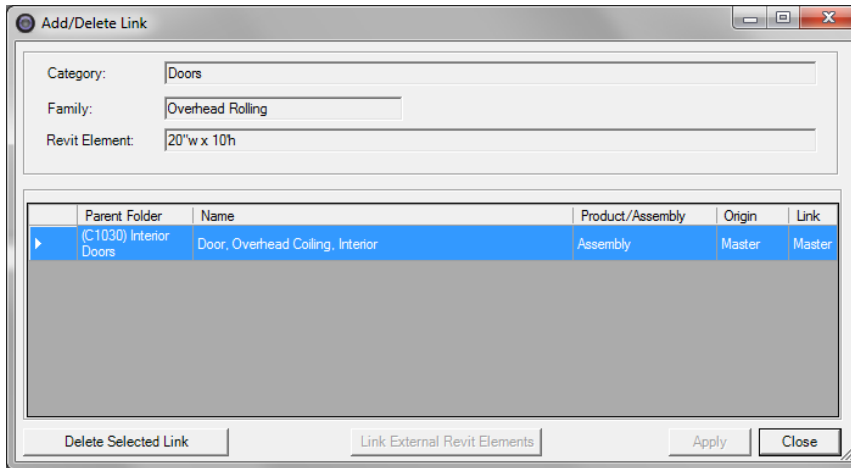
Links for LME Products or Assemblies:

Top part of the dialog box:

- Folder: Displays the folder in which this Product or Assembly is located.
- Origin: Displays either Master or User, to indicate if the Product or Assembly is included in the master or added by the user.
- LME Product or LME Assembly: Displays the description of the Product or Assembly.

Links Display - Bottom part of the dialog box:

- Application - Displays either SpecLink-E or Revit to indicate the application this link applies to.
- Category/Section - Displays the Category if the link is with Revit. Displays the section number and section title if this link is with SLE. (Note that if this is a link to an SLE project that is not connected with the current LME group, this will say "Not Connected to SpecLink-E Project")
- Family/Sequence # - Displays the Family if the link is with Revit and the Sequence Number if this link is with SLE.
- Name/Description - Displays the Name of the Revit Element if the link is with Revit and the paragraph description if this link is with SLE.
- Link - Displays Master if this link is included in the master and User if this is a user created link.



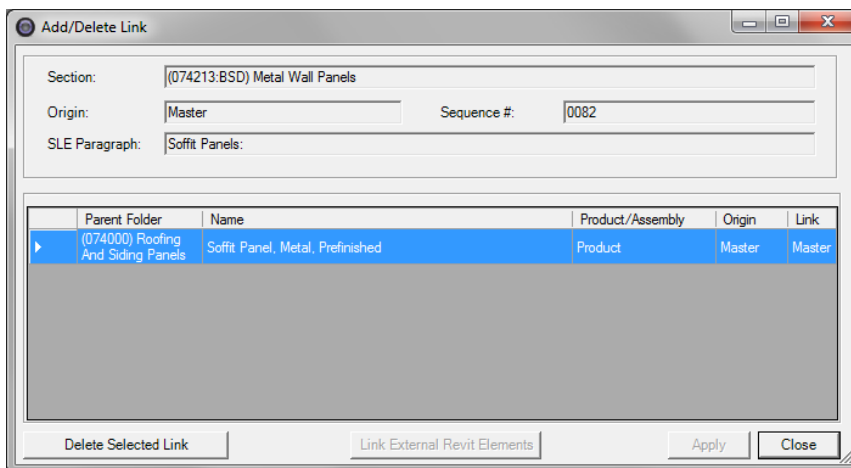
Links for Revit Elements and Revit Materials:

Top part of the dialog box:

- Category: Displays the Category for this Revit Element.
- Family: Displays the Family for this Revit Element.
- Revit Element: Displays the description of the Revit Element or Material.

Links Display - Bottom part of the dialog box:

- Parent Folder - Displays the Parent Folder for the LME Product or Assembly with which this element or material is linked.
- Name - Displays the Name of the LME Product or Assembly.
- Product/Assembly - Displays either Product or Assembly to indicate which one this element is linked to.
- Origin - Displays Master if this element/material is linked to a Master LME Product or Assembly. Displays User if the LME Product or Assembly is user added.
- Link - Displays Master if this link is included in the master and User if this is a user created link.



Links for SLE paragraphs:

Top part of the dialog box:

- Section: Displays the section number and section name for this SLE paragraph.
- Origin: Displays Master if this SLE paragraph is included in the SLE Master and User if this is a user added SLE paragraph.
- Sequence #: Displays the sequence number for this SLE paragraph.

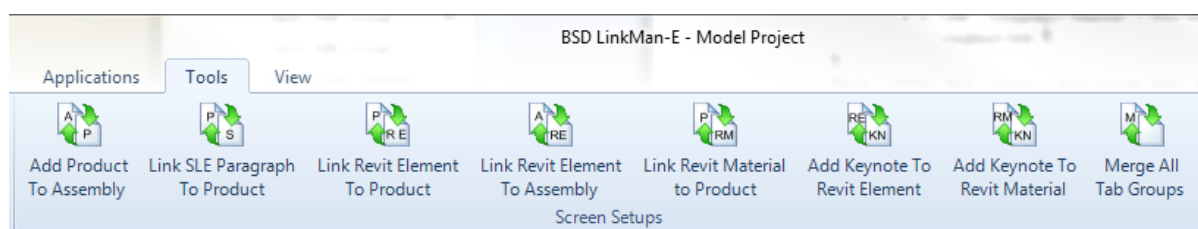
- SLE Paragraph: Displays the description for this SLE paragraph.

Links Display - Bottom part of the dialog box:

- Parent Folder - Displays the Parent Folder for the LME Product with which this paragraph is linked.
- Name - Displays the Name of the LME Product.
- Product/Assembly - Displays either Product or Assembly to indicate which one this paragraph is linked to. At this point, it will always be Product.
- Origin - Displays Master if this paragraph is linked to a Master LME Product. Displays User if the LME Product is user added.
- Link - Displays Master if this link was included in the master and User if this is a user created link.

Note: Unlike SLE, source and target links are all displayed in the same dialog box.

Using Screen Setups to add to the LME database



The Tools tab includes a number of commands that will arrange your windows to facilitate adding to your LME database.

They include:

- Add Product to Assembly
- Link SLE Paragraph to Product
- Link Revit Element to Product
- Link Revit Element to Assembly
- Link Revit Material to Product
- Add Keynote to Revit Element
- Add Keynote to Revit Material
- Merge All Tab Groups (sets all tabs back into the same window)

Linking User Added Assemblies and Products

The data that is included in the master data installed with LME already includes links, but you will need to add links when you add assemblies and products.

There are several types of links that you can add:

- Links from an object in a Revit project to a LME assembly.
- Links from an object in a Revit project to a LME product.
- Links from a product to a SpecLink-E project.
- Links from a Revit Material to an LME Product.

Creating a Link from an LME Product to a SpecLink-E Section

User added sections and paragraphs in your SpecLink-E project will not be pre-linked to the LME Products. Each SLE paragraph can only have one link with a single LME Product. To change a link, you must delete the existing link first before adding a new one.

To create a link from an LME Product to a SpecLink-E paragraph:

1. Add the paragraph to your SpecLink-E project if it does not already exist.
2. Using the View tab/Status Columns group in SLE, make sure that the Requirements Tags and User Defined Tags columns are visible.
3. If this is a User created paragraph in SLE, right click on the R column and apply the PL or PP (Product) tag.
4. If this is a Master paragraph in SLE (or the R column is already in use) right click on the U column to apply the PL or PP tag. (The U column can be used to apply the PL or PP tag to both BSD Master and User paragraphs.)
5. If the SLE paragraph is newly added or newly tagged, click on the Refresh icon in the Applications tab of LME.
6. Click on the Tools tab and select Link SLE Paragraph to Product. This will display the SpecLink Project and the Products Dashboard in separate windows.
7. In the tree of your SpecLink Project tab, click on the folder that contains the SpecLink-E paragraph that you want to link.
8. In the tree of your LinkMan Dashboard, click on the folder that contains the product that you want to link.
9. Drag the SLE paragraph and drop it on the LME product.
10. The Add/Delete Link form opens to display the link that you just created.
11. Click on Apply and then Close.
12. You will now see a checkmark in the Linked column for this paragraph in the SpecLink Project tabs.

Note: If you link a user LME Product to a SLE paragraph that is in a section that does not match the existing keynote number on the LME Product, the location field and the first 6 characters of the keynote on the LME Product will be changed to match the section ID of the SLE paragraph to which it is now linked.

Creating a Link from a Revit Object to an LME Assembly

User added objects in your Revit project will not be pre-linked to the LME Assemblies. To create a link from a Revit object to an LME Assembly:

1. Add the object to your Revit project if it does not already exist.
2. If you added a new object in your Revit project, in your Revit project, click on Update LinkMan-E data from the LinkMan-E menu, followed by a Refresh in LME.
3. Click on the Tools tab and select Link Revit Element to Assembly. This will display the Revit Project and the Assemblies Dashboard in separate windows.
4. In the tree of your Revit Project tab, click on the folder that contains the Revit object that you want to link.
5. In the tree of your Assemblies Dashboard, click on the folder that contains the assembly that you want to link.

6. Drag the Revit object and drop it on the assembly.
Note: Use Click with Shift-Click to select a contiguous group of Revit objects. Use Click with Control Click to select noncontiguous Revit objects. You can then just drag and drop them onto the desired assembly all at once.
7. The Add/Delete Link form opens to display the link that you just created.
8. Click on Apply and then Close.
9. You will now see a checkmark in the Linked column for this object in the Revit Project tab.

Creating a Link from a Revit Object to an LME Product

User added objects in your Revit project will not be pre-linked to the LME Assemblies or Products. To create a link from a Revit object to a LME Product:

1. Add the object to your Revit project if it does not already exist.
2. If you added a new object in your Revit project, in your Revit project, click on Update LinkMan-E data from the LinkMan-E menu (Add-ins tab), followed by a Refresh in LME.
3. Click on the Tools tab and select Link Revit Element to Product. This will display the Revit Project and the Products Dashboard in separate windows.
4. In the tree of your Revit Project tab, click on the folder that contains the Revit object that you want to link.
5. In the tree of your Products Dashboard, click on the folder that contains the product that you want to link.
6. Drag the Revit object and drop it on the product.

Note: Use Click with Shift-Click to select a contiguous group of Revit objects. Use Click with Control Click to select noncontiguous Revit objects. You can then just drag and drop them onto the desired product all at once.

7. The Add/Delete Link form opens to display the link(s) that you just created.
8. Click on Apply and then Close.
9. You will now see a checkmark in the Linked column for these objects in the Revit Project tab.

Creating a Link from a Revit Material to an LME Product

To create a link from a Revit Material to an LME Product:

1. Assign the material in your Revit project if it is not already assigned.
2. If you made a change to your Revit project, in your Revit project, click on Update LinkMan-E data from the LinkMan-E menu, followed by a Refresh in LME.
3. Click on the Tools tab and select Link Revit Material to Product. This will display the Revit Materials tab and the Products Dashboard in separate windows.
4. In the Revit Materials tab, click on the Revit Material that you want to link.
5. In the tree of your Products Dashboard, click on the folder that contains the product that you want to link.
6. Drag the Revit Material and drop it on the product. If selecting multiple Revit Materials, you can use Click and Shift-Click or Click and Control-Click to select multiple records to drag and drop.

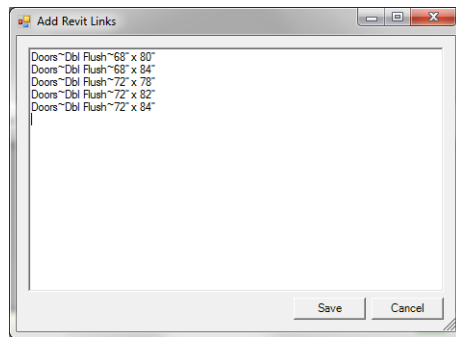
7. The Add/Delete Link form opens to display the link(s) that you just created.
8. Click on Apply and then Close.
9. You will now see a checkmark in the Linked column for these objects in the Revit Materials tab.

Link External Revit Elements

Use this command to create single or multiple links to Revit Objects or Materials whether you have those objects or materials available to you in LinkMan-E or even on your computer.

While in an Assembly or a Product:

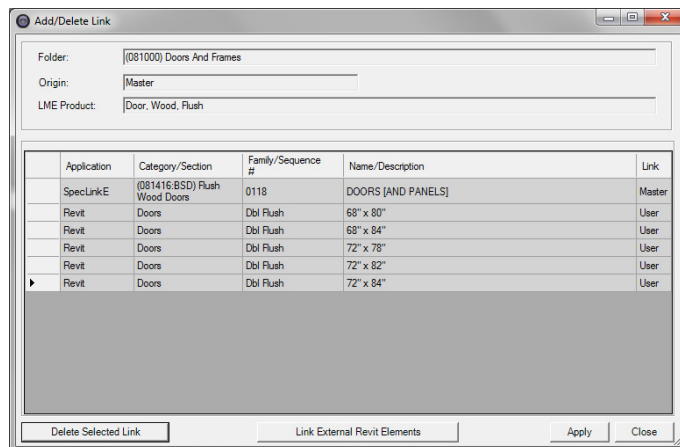
- Right click on the Assembly or Product.
- (If the Assemblies Dashboard is not visible, click on the View tab and select Advanced.)
- Choose Edit Links.
- In the Links Dialog Box select Link External Revit Elements.



- When you see the Add Revit Links Dialog Box, you can either type in the desired links, or paste them in from another document.

The valid format to add an external link from a **Revit Object** to any assembly or product is:

Category Name~Family name~Type Name



The valid format to add an external link from a **Revit Material** to any assembly or product is:

Revit~Materials~Material Name

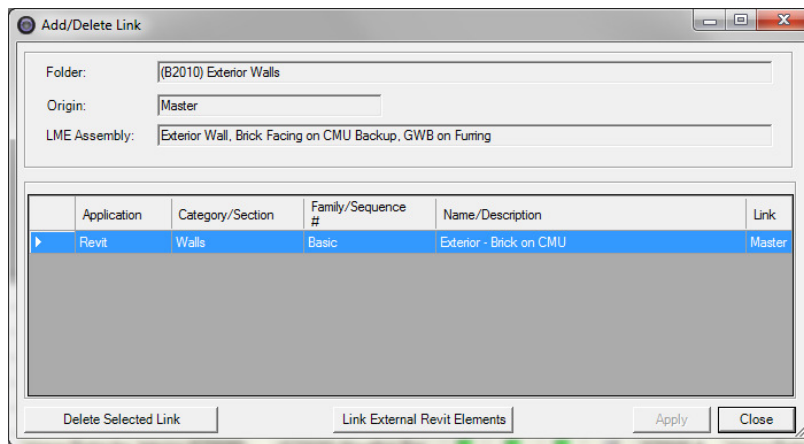
- Click on Save and then Apply in the Links Dialog Box.

Your links will be saved in your LME database.

The only validation that will be done is to validate the format of the entry. Since you do not even need to have Revit installed, there is no way to validate the Revit objects. If you are connected to a Revit project and the linked element is available, you will see the checkmark in the Linked column right away.

Editing Links

Master Links can be viewed using Edit Links. Only User added links may be deleted. To view a master link or edit a user added link:



1. Click on the tab where the link is.
2. Click in the tree on the folder that contains the object with the link.
3. Click on the object that contains the link.
4. Right click on the object and choose Edit or View Links.
5. You can view any link or delete a user added link.
6. To modify a link, you must remove it and re-add it.

Deleting User-Added Links

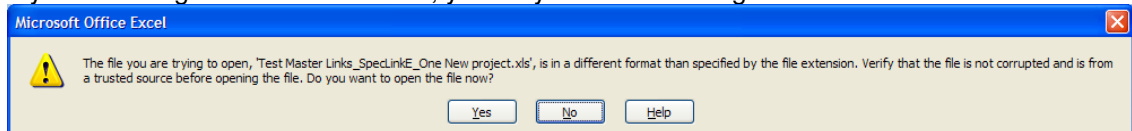
Master links cannot be deleted. To delete a user-added link:

- Highlight the object that includes the link that you want to delete.
- Right click on the object and choose Edit Links or View Links.
- Click on the link that you want to delete and click on Delete Selected Link.
- Click Apply and then Close to save your changes.

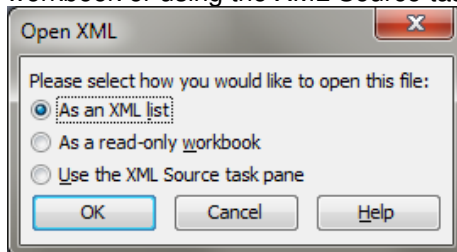
Export for Printing

Export for Printing exports the records **currently displayed in the Document Panel** to an XML file which is automatically opened in Excel.

- Select the tab (Products Dashboard, Assemblies Dashboard, Revit Project or SpecLink Project) that includes the records that you want to export. (The Keynotes tab records cannot be exported at this time.)
- (If the desired tab is not visible, click on the View tab and select Advanced.)
- Click on the folder within the tab that includes the records you want to export. Leaving the cursor on the top level folder will export all the records within that tab (SpecLink Project and Revit Project tabs only).
- Click on Show Active Objects or Show All Objects, etc. as desired.
- Click on the File menu and select Export for Printing.
- Change the destination folder in the Select File for export dialog box to place your exported file in the desired location.
- Click Save.
- Navigate to the location where you saved the file, and double click on it to open it in Excel.
- If you are using Office 2007 or 2010, you may see this message:



- Click Yes.
- You will see a menu with the choice of opening the file as an XML list, a read-only workbook or using the XML Source task pane.



- If you choose As an XML list, an XML list is created in a new workbook. The contents of the file are imported into the XML list. Microsoft Excel will infer the schema of the XML data file. This choice will probably be the most useful to you. You can sort the records by any of the individual columns. Since the file was originally an XML file, if you want to save it as an Excel file, you will need to give it a name when you save it.
- If you choose As a read-only workbook, The XML data file is opened as a read-only workbook. The structure of the file is flattened.
- If you choose Use the XML Source task pane, the schema of the XML data file is displayed in the **XML Source** task pane. You can then drag elements of the schema to the worksheet to map those elements to the worksheet.
- If you get a message that the XML source file does not refer to a schema, click OK.
- When your file opens, you can sort it by any column. You can also print and/or save the file as an Excel spreadsheet and continue to work with it, adding a header and/or footer if desired.

Revit Keynote Management System

The Basics

LinkMan-E includes a Revit Keynote Management System to allow you to manage the keynotes in your Revit project. LinkMan-E's keynote utility will display the keynotes that are assigned to the elements and materials in the Revit project, compare these to master keynotes provided in LinkMan, and allow you to edit and copy keynotes. Once the keynotes are in acceptable shape, you can import the keynotes and keynote file from LinkMan-E, replacing any existing keynotes in your Revit project and allowing placement of additional keynotes.

Revit Keynoting Concepts

The LME Keynote Management System uses Revit's keynote tagging functions which store data in two locations: 1) the keynote number is stored in the Revit project in the element's Keynote attribute (under Identify Data); 2) the keynote text is stored in the Revit Keynotes File, a text file with the full list of keynotes available for assignment to elements. Although any keynote number may be saved on an element, the only keynote text that will be displayed in a keynote tag is that which exists in the keynotes file and which corresponds to the keynote number in the element. There may be one or more keynotes files, depending on the settings in each Revit instance. For efficiency and quality control, most multi-user set-ups of Revit use the same keynotes file. When assigning new or revised keynotes, LME exports a new keynotes file for Revit's use.

Background on Keynotes

Not everyone in architecture and engineering uses keynotes, and for good reasons: 1) employing them effectively requires training the drafting staff and applying strict discipline; 2) there are no standards, so frequently the keynotes vary from project to project (as well as from office to office); and 3) managing keynotes without the use of specialized software is difficult or impossible.

Why Use Keynotes?

Not everyone even knows what they are. Keynotes are short notations intended for use on construction drawings -- especially drawing details -- that take the place of verbose, sometimes conflicting or contradictory ad hoc notes. They typically consist of a specification section number in combination with a short suffix, so the contractor is referred both to a numerically organized legend on the drawings and to the appropriate specification sections for more detail. For example, a keynote 042000.A might correspond on a legend to "Clay Facing Brick," and a keynote 042000.B might correspond to "Common Brick." The contractor would then be expected to go to Section 042000 - Unit Masonry in the specifications to find the detailed requirements for clay facing brick and common brick. Of course, for maximum effectiveness, the keynote number should correspond exactly with the section number in the specifications, and the terms in the drawing legend should correspond exactly with the terms used in the specification section.

One of the problems associated with keynotes is the lack of a definitive standard, so "042000.A" might mean something totally different on the next project and would almost certainly mean something different at the next firm. Learning to use predefined keynotes instead of creating notes on the fly and having the discipline to apply them consistently throughout a firm requires a lot of effort. In addition, it helps to have specialized software for placing the keynotes, managing them to prevent conflicts, and generating accurate legends that can be placed and updated easily.

Revit and LinkMan-E Jointly Manage Keynotes

Autodesk's Revit does have keynoting capability, including automated generation of keynote legends, but it has never been easy to create, assign, or make use of the keynotes. Now BSD LinkMan-E includes features that will help manage the keynotes more effectively. Think of LinkMan-E as a keynote editor, organizer, and assignment tool. Think of Revit as a keynote placement and updating tool. Together, they comprise a coordinated system for keynoting.

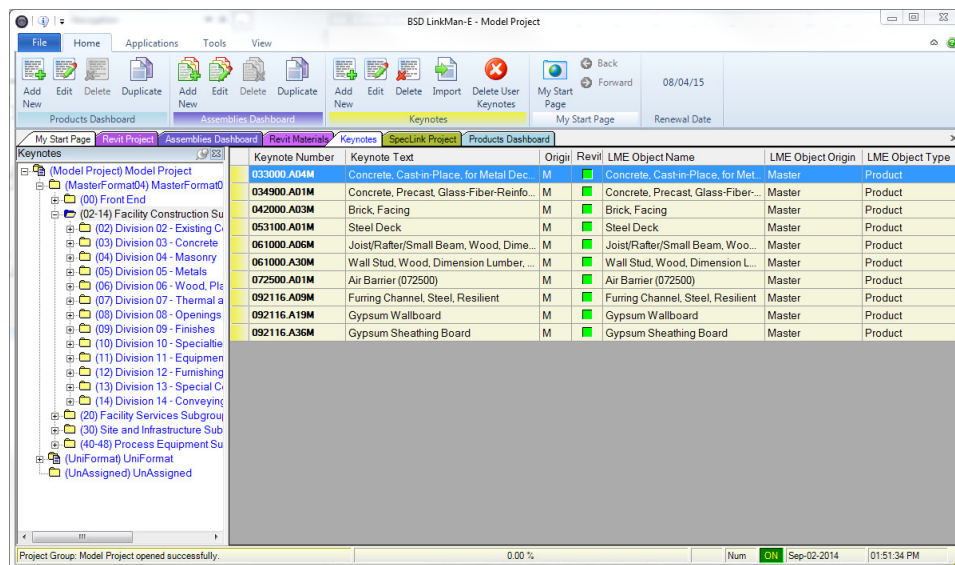
When we connect a Revit project to a LinkMan-E Group and click on Update LinkMan-E Data, Revit sends to LinkMan information about elements and materials currently included in the model. When we Refresh the data in LinkMan-E, this data is displayed on the Revit Project tab. The Revit data displayed includes any keynotes included in the model, plus any corresponding LinkMan-E keynotes. It is possible to modify the keynotes in the Revit columns (keynote number in one column, and keynote text in the other), but the LinkMan master keynotes cannot be altered. Right clicking on any element allows us to copy the LME default keynote to the Revit keynote column. There is also a command -- Apply Default Keynotes -- that will automatically copy all the master keynotes to any blank fields in the Revit column, without overwriting any keynotes that already exist. In other words, with this command we can easily merge existing project keynotes with master keynotes. There are also other ways to create or modify the project keynotes, which are covered in the Basic Steps below. Why would anyone want to do this? It's really very simple: When the Import/Replace Keynotes command in Revit is clicked, any keynotes in the R columns in LinkMan-E will automatically be assigned to the corresponding elements in Revit and will replace any keynotes that may have already been placed in the Revit project. This is a far more efficient way to assign and update keynotes than would be possible within Revit, where keynotes must be individually assigned to each element.

Basic Steps

To make use of the Revit Keynote Management System, you will use these basic steps:

- If the Keynotes tab is not visible, click on the View tab and select Advanced.
- Optionally: You can begin by Importing a Keynotes file from your Revit project.
- Viewing the Revit Keynotes - See Keynotes Tab, Keynote Display in the Revit Tab and Keynote display in the Revit Materials tab.
- Creating new Keynotes - See Creating Keynotes in LinkMan-E and Editing Keynotes.
- If you have created Keynotes in LME (independent of a Product or Assembly) you can Assign a Keynote to a Revit Element or Material.
- Applying Keynotes to Revit Elements - See Apply Default Keynotes.
- Assigning the Keynotes file in Revit - See Import/Replace Keynotes and Accessing the New LME Revit Keynotes File in Your Revit Project.

Keynotes Tab



If the Keynotes tab is not visible, click on the View tab and select Advanced.

The Keynotes tab displays keynotes that are included in the LME master database, as well as any keynotes you have added in LME. There are two top level folders in the tree. The MasterFormat folder displays the keynotes that have been assigned to the Products in the LME database, as well as any user added keynotes that have been added in that folder. The Unifomat folder includes LME master keynotes that have been assigned to assemblies in the LME master database, as well as any user added keynotes you have added under that folder.

As you click on different folders, the keynotes displayed will reflect the contents of the folder you have selected. If you click on the MasterFormat04 folder, you will see all the keynotes that are included in all the folders below that folder. If you expand the folder and click on a lower level folder, you will see only the keynotes for that folder.

The setting of Show Active Objects (including Active Revit and Active SLE) or Show All Objects will determine what keynotes are visible in this tab.

Keynote Display in the Keynotes Tab

The following fields are displayed in the Keynotes tab:

Note that the fields below may be rearranged by dragging the column header right or left and dropping it where desired.

- Keynote Number
- Keynote Text
- Origin - M for Master, U for User added or imported
- Revit Status - A green background indicates that this Keynote is applied to an active Revit Object or Revit Material.
- LME Object Name - Name of the LME Product or Assembly to which this keynote is assigned. This is blank if the keynote was added in the Keynotes Tab, rather than when adding or editing a Product or Assembly.
- LME Object Origin - Master if supplied in the master or User if user added.
- LME Object Type - Product or Assembly

Keynote Display in the Revit Project and Revit Materials Tabs

When you click on the Revit Project or Revit Materials tab in your LME group, you will see, for each Revit Element and Material in your project:

- R-Keynote # - Displays the keynote number for the keynote that is currently assigned -- or the keynote that is ready to be assigned by LME.
- R-Keynote - Displays the keynote text for the keynote that is currently assigned -- or the keynote that is ready to be assigned by LME. Since Revit only stores the keynote number in the object (not the keynote text) the R-Keynote column may be empty if a keynote was applied in Revit, but that keynote file was not imported into LME.
- L-Keynote # - Displays the keynote number for the keynote that is currently assigned to the LME object this Revit Element or Material is currently linked to. This is a suggested keynote from the LME master or from an LME object that you have created. This keynote number can be transferred to the R-Keynote column singly (with a right mouse button click) or as a batch process using the Apply Default Keynotes in the Autodesk Revit group on the Applications tab.
- L-Keynote - Displays the keynote text for the L-Keynote # described above. This can be transferred to the R-Keynote column singly (with a right mouse button click) or as a batch process using the Apply Default Keynotes in the Autodesk Revit group on the Applications tab.

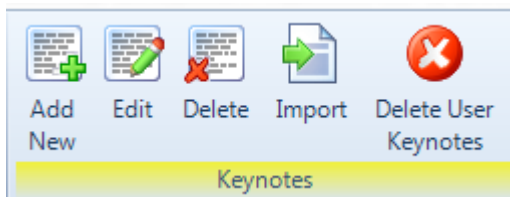
Creating Keynotes in LME

Adding a Keynote for a Product or Assembly

If you want your keynote to be automatically assigned to a user-added LME Product or LME Assembly, the easiest way to do that is to add the keynote information while adding or editing the Product or Assembly. The Add/Edit Product or Assembly form displays the folder where the product or assembly is. The following fields are added or edited in this form:

- Folder - filled in by the software, based on where your cursor is when you add the Product or Assembly
- Name - User added name for the Product or Assembly
- Location, Prefix, Position, Suffix - These fields combine to make the Keynote #.
- Keynote # - The combination of the fields above.
- Keynote - User added description for the keynote.
- Notes - User added notes for this Product or Assembly.

Adding a Keynote Independently of a Product or Assembly



Keynotes are added automatically when you add new Products and Assemblies. They can also be added independently.

To create a new Keynote:

1. If the Keynotes tab is not visible, click on the View tab and select Advanced.
2. In the Keynotes tab, highlight the folder in the Keynotes tree where your new keynote should be.
3. Click on Add New from the Keynotes group on the Home tab. The software will automatically change your focus to the Keynotes tab, if you have not already done so. Alternatively, if there are Keynotes in the right hand panel, you can right click on an existing Keynote and choose Create New Keynote.
4. Fill in the information on the Add Keynote Independent of an LME Object form. The following fields are in the form:
 - Folder - Filled in by the software, based on where your cursor is when you add the keynote. Click on the field to bring up the Folder Selection Form to select a different folder in the project. Double click on the newly selected folder to bring it into the Add Keynote form.
 - Location, Prefix, Position, Suffix - These fields combine to make the Keynote #.
 - Keynote # - The combination of the fields above.
 - Keynote - User added description for the keynote.
5. Click Save and Close to save the keynote and close the form.
6. Click Save and New to save the keynote and add another one.
7. Click Cancel to close the form without saving your changes to the last record you were on.

Keynotes created in this way will not be associated with an LME object but they can be assigned to a Revit Element or Material.

Note: If you are displaying Show Active Objects only, and you add a new Product, Assembly or Keynote, the display will change to Show All Objects automatically, so you can see your newly added object.

See also: Adding a Keynote for a Product or Assembly.

Editing Keynotes

Only User added or copied keynotes can be edited. To edit a user keynote:

- If the Keynotes tab is not visible, click on the View tab and select Advanced.
- Click on the Keynotes tab
- Click on the keynote to be changed.

- From the Home tab, Keynotes group, click on Edit.
- Alternatively, right click on the keynote and choose Edit Keynote.
- Make the desired changes.
- Click on Save and Close.

Deleting a Single Keynote

Only User added or copied keynotes can be deleted. To delete a user keynote:

- If the Keynotes tab is not visible, click on the View tab and select Advanced.
- Click on the Keynotes tab.
- Click on the keynote to be deleted.
- From the Home tab, Keynotes group, click on Delete.
- Alternatively, right click on the keynote and choose Delete Keynote.
- Click Yes to confirm.

Import Keynotes from Revit into LME

The Import Keynotes icon on the Keynotes tab opens a dialog box that allows you to enter a file name or browse for a file, such as a user-generated master keynote file, and import it into LinkMan-E. When the correct file has been located, clicking on the Import button will automatically merge the data with the LME master keynotes, ordering them numerically. The imported keynotes are differentiated from master keynotes by a "U" for user in the Origin column.

Deleting All User Keynotes

This function allows you to delete all user added or imported keynotes. Note that because the keynotes are shared among all LME groups, **it will delete all user keynotes from all of your LME groups**. A user keynote is any keynote that is not supplied with the LME master database. They can be created in LME or imported from a Revit Keynote file. If there is any chance that you might want to use these keynotes in the future, it is best to make a copy of the keynote file. Do this in Revit, using the Import/Replace Keynotes | All Keynotes function from the Add-Ins tab in Revit. Save the file with a name and in a location that you will be able to find later. If you want to bring the file back into LME, you can use the Import function in the Keynotes group in LME.

To delete all user keynotes:

- If a backup is desired, open your Revit project in Revit and make a backup of your user keynotes by using the Import/Replace Keynotes | All Keynotes function from the Add-Ins tab in Revit.
- If the Keynotes tab is not visible, click on the View tab and select Advanced.
- To remove all User Keynotes in LME, click on the Keynotes tab.
- From the Home tab, Keynotes group, click on Delete User Keynotes.
- Note that this will delete all user keynotes from all of your LME groups.
- Click Yes to confirm.

Assigning a Keynote to a Revit Element or Material

To assign a keynote to a Revit Element or Revit Material:

- Click on the Tools tab and click on Add Keynote to Revit Element or Add Keynote to Revit Material. The software will open the necessary windows for this procedure.

- Locate the keynote to be assigned in the Keynotes tab.
- Locate the Revit Element or Revit Material to which the keynote is to be assigned.
- Drag and drop the keynote from the Keynotes tab to the appropriate Revit Element or Material.

Removing a Revit Keynote from a Revit Element or Material

Once you have added a Keynote in the Keynotes tab, you can assign it to a Revit Element or Material.

To remove a keynote from a Revit element or Material, right click on the Revit Element or Material and choose Remove Revit Keynote.

Apply Default Keynotes

Apply Default Keynotes is on the Applications tab/Autodesk Revit Group. You can use this command, whether you have clicked on the Revit Project tab or not.

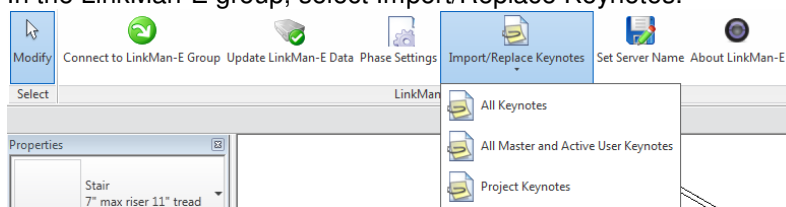
Once you have reviewed and added any keynotes desired, you can use Apply Default Keynotes to copy keynotes from the LME keynotes to the Revit keynotes, in preparation for sending the information back to your Revit project. Applying the Default Keynotes will not overwrite any keynote numbers or keynote text already in the two Revit columns but will copy information from the L-Keynotes # column and the L-Keynote column to any empty fields in the R-Keynote # and R-Keynote columns. Apply Default Keynotes applies to both the Revit Objects and the Revit Materials.

You can also apply a default keynote on a single record, by right clicking on the Revit Element or Material and choosing Apply Default Keynote (This element).

Import/Replace Keynotes from LME into Revit

Once you have the R-Keynote # and R-Keynote columns completed, you can bring the information into your Revit project.

- In Revit, open the Revit project that is linked to your LME Group.
- Click on the Add-ins tab.
- In the LinkMan-E group, select Import/Replace Keynotes.



- Your options are:
 - "All Keynotes" includes all LinkMan-E master keynotes, all project keynotes (the keynotes in the R-Keynote # and R-Keynote columns in the Revit Project and Materials tabs of LME), and all user keynotes that have been imported into or added in LinkMan-E. All these keynotes are organized automatically into a single file in numerical order.
 - "All Master and Active User Keynotes" is the same as "All Keynotes" except that user keynotes that are not in the R-Keynote # and R-Keynote columns are

- excluded (user keynotes are any marked "U" that have been imported into or added in LinkMan-E).
- "Project Keynotes" includes only those keynotes that are currently in the Revit keynote columns in either the Revit Project tab or the Revit Materials tab, whether they are active or not -- including any that have been copied from the LinkMan-E master keynotes or the user keynotes.
- Regardless of which choice is made, any keynotes in the R columns in LinkMan-E will automatically be assigned to the corresponding elements in Revit, replacing any keynotes that may have already been placed in the Revit project. However, the choices will determine what additional information – if any – will be imported into the text file that can be used for subsequent keynote selection and placement. That, in turn, depends on how much latitude the Revit users will be given for selecting and placing additional keynotes
- To generate the Keynotes in all upper case, click Yes to the Make Keynotes ALL CAPS question.
- To allow the keynote text to show in Revit keynote tags, a new LME Revit Keynotes File is now exported. You will be asked to confirm the name and location of this file. The simplest procedure is to browse to the location of the current keynotes file and select the same file name -- this will overwrite the current keynotes file with the newly exported file.
- Click Save.
- You will receive a confirmation message.
- This must be followed by Accessing the New LME Revit Keynotes File in Your Revit Project.

Note: If you are in a Revit project that includes linked projects you will see some messages about the linked projects as it opens each linked project. You may have to reload the linked projects in Revit following this process.

Accessing the New LME Revit Keynotes File in your Revit Project

To associate the LME Keynotes file with your Revit Project, allowing the keynote text to show in Revit keynote tags, follow these steps.

- Export the new file using the same path and file name as the old file (see Import/Replace Keynotes). Following the saving of the new file, starting Revit will automatically access the new file. Revit users who have Revit open when the new file is saved will have to either close and re-open Revit or follow the procedure below.
- Re-set the path to the new keynotes file. **Note that this step must be done each and every time that you make a change to your LME keynote file, even if you replace your existing file when using Import/Replace Keynotes** (unless you close and re-open Revit).
- After using Import/Replace Keynotes, click on the Annotate tab.
- Click on the Tag group title.
- Click on Keynoting Settings.
- Click on the Browse button to the right of the Full Path field.
- Select the LME Revit Keynotes File that was created and click Open (if you overwrote the existing file, select that file and click Open).
- Click OK to close the dialog box.

To View a Keynote on a Revit Element While in Revit

- Find the element in the Project Browser.
- Right click on the element and choose Type Properties.

- The Keynote will be displayed in the Identity Data section of the form.
- Click on the Browse button at the end of the Keynote field to see the location of the keynote in the hierarchical structure of the keynote file.
- Individual Keynotes may be changed in this form.

Navigation and Miscellaneous Commands

Project Tree

The left panel in each tab (except the Revit Materials) is called the Tree Panel. The Tree Panel is a hierarchical display of the folders in the tree. To see the sub-folders under a folder, click on the plus sign to the left of the folder name. To see the contents of a particular folder, click on it in the tree panel and the contents will display in the right panel..

Folders

The trees for the views in LME display the data in folders. The Products Dashboard and the SpecLink Project Views are in CSI's MasterFormat 2004/12+ hierarchy. The Assemblies Dashboard uses a Unifomat hierarchy, and the Revit Project uses a proprietary hierarchy. The Keynotes Tab used both CSI MasterFormat as well as Unifomat. To open a branch in any of the trees, click on the plus sign adjacent to the folder.

Shortcut Keys

LinkMan-E uses several of the standard Windows keyboard shortcut keys:

- **Control+X - Cut** - Use this to cut text for moving to a new location
- **Control+C - Copy** - Use this to copy text for moving to a new location
- **Control+V - Paste** - Use this to paste copied or cut text to a new location

In addition, if you use the Alt key followed by the first letter of a tab (such as Alt and then T for Tools tab) the shortcut key abbreviations for the commands on that tab appear on the menus. Type the key for the command you want. Do not hold the Alt key down when you type the key for the desired tab.

Vertical and Horizontal Tab Groups

To separate two or more tabs into separate windows so you can see both (or more) at the same time, create a new Vertical or Horizontal Tab Group.

- Right click on the Tab of one of the views and choose New Vertical Tab Group or New Horizontal Tab Group.
- To move a tab from one group to the next, right click on it and choose Move to Previous Tab Group or Move to Next Tab Group.

Merge All Tab Groups

Use this command from the Tools tab to merge all tab groups into the main window. This is useful after using Vertical and Horizontal Tab Groups or any of the commands in the Screen Setups group on the Tools tab..

Right mouse button menu in the Assemblies Dashboard

The right mouse button in the Assemblies Dashboard includes the following choices, depending on the situation:

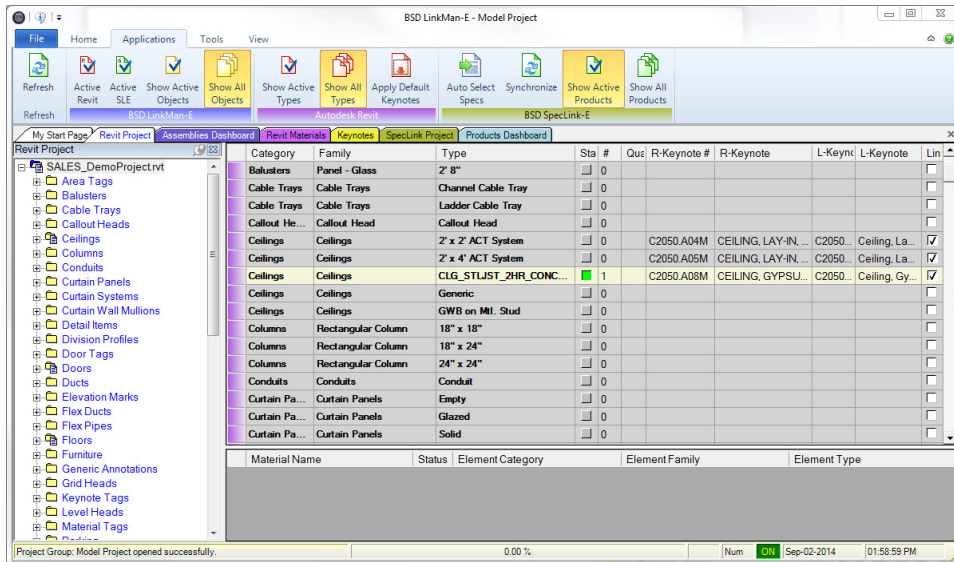
- **Create New Assembly**
- **View/Edit Assembly**
- **Duplicate Assembly**
- **Edit Links**
- **Delete Assembly**

Right mouse button menu in the Products Dashboard

The right mouse button in the Products Dashboard includes the following choices, depending on the situation:

- **Create New Product**
- **View/Edit Product**
- **Duplicate Product**
- **Edit Links**
- **Delete Product**

Show All Types

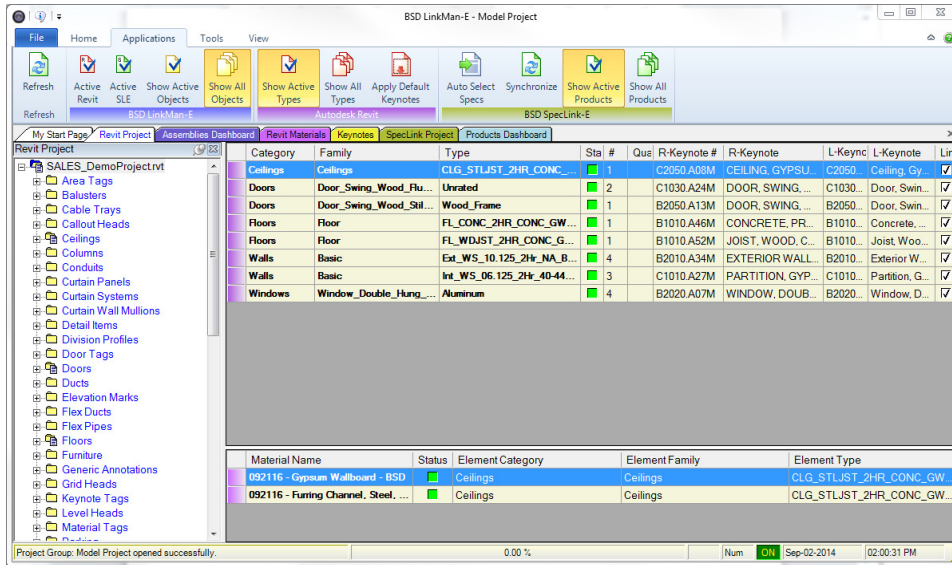


The Show All Types command, on the Applications tab, affects both the Revit Project and the Revit Materials tab.

- For the Revit Project tab, clicking on Show All Types will show all families and types that are available in the linked Revit project, under the folder that is currently highlighted in the Revit Project Tree.
- For the Revit Materials tab, clicking on Show All Types will show all materials that are available in your Revit Project.

Clicking on Show All Types (if it is not already selected) from a tab other than the Revit Project or Revit Materials tab will change the focus to the Revit Project Tab.

Show Active Types

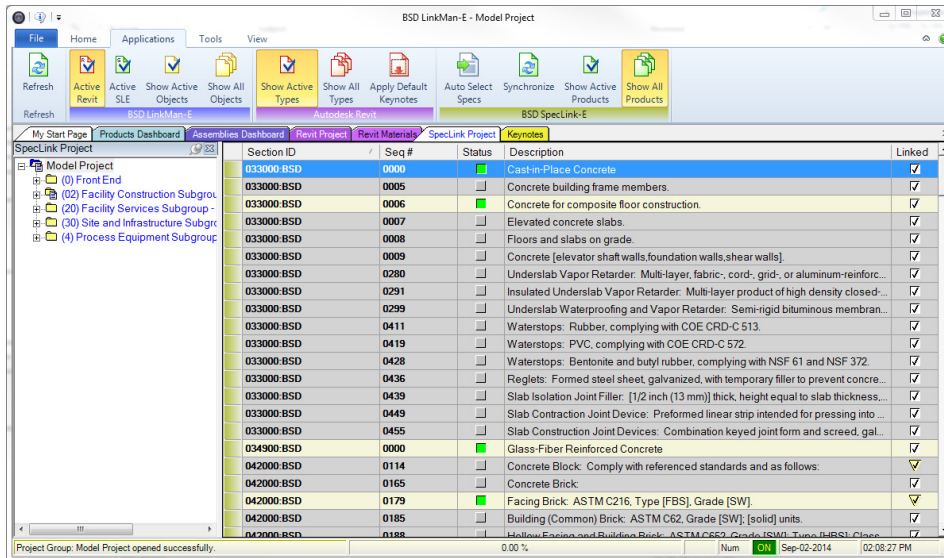


The Show Active Types command, on the Applications tab, affects both the Revit Project and the Revit Materials tab.

- For the Revit Project tab, clicking on Show Active Types will show only those families and types that are active in the linked Revit project, under the folder that is currently highlighted in the Revit Project Tree.
- For the Revit Materials tab, clicking on Show Active Types will show only the materials that are associated with Revit Objects that are active in your Revit Project.

Clicking on Show Active Types (if it is not already selected) from a tab other than the Revit Project or Revit Materials tab will change the focus to the Revit Project Tab.

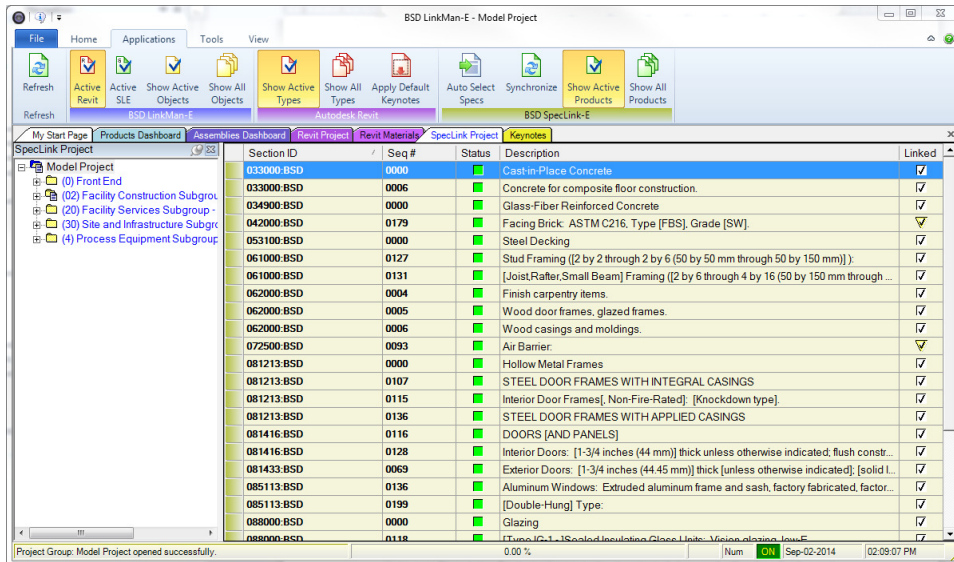
Show All Products



The Show All Products command on the Applications tab, affects the SpecLink Project tab. Clicking on Show All Products will show all products under the folder that is currently highlighted in the SpecLink Project Tree, whether they are active in the linked SpecLink-E project or not. Note that for a section to appear in the SpecLink Project Tree you must have checked it out once or have a link to it.

Clicking on Show All Products (if it is not already selected) from a tab other than the SpecLink Project tab will change the focus to the SpecLink Project Tab.

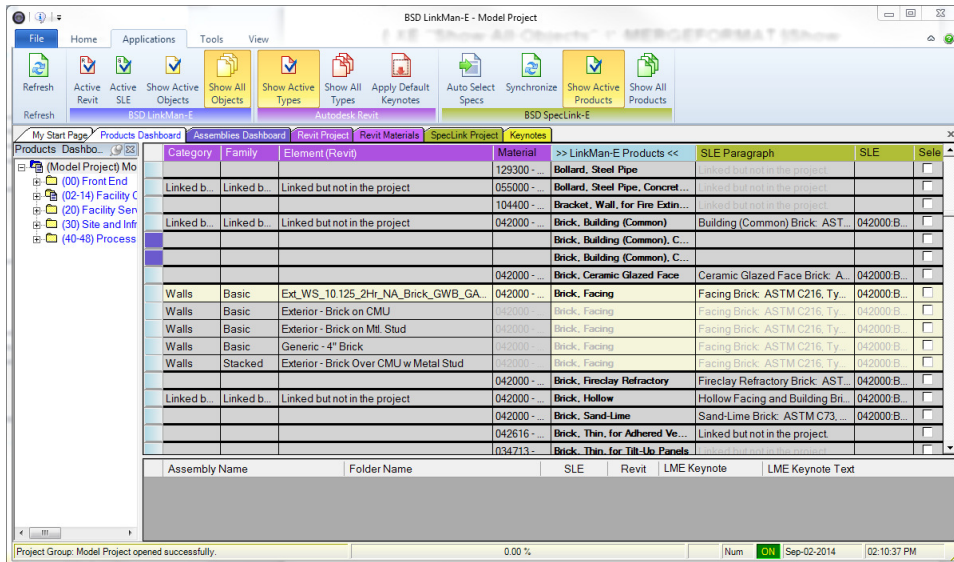
Show Active Products



The Show Active Products command, on the Applications tab, affects the SpecLink Project tab. Clicking on Show Active Products will show only those products that are active in the linked SpecLink-E project, under the folder that is currently highlighted in the SpecLink Project Tree.

Clicking on Show Active Products (if it is not already selected) from a tab other than the SpecLink Project tab will change the focus to the SpecLink Project Tab.

Show All Objects

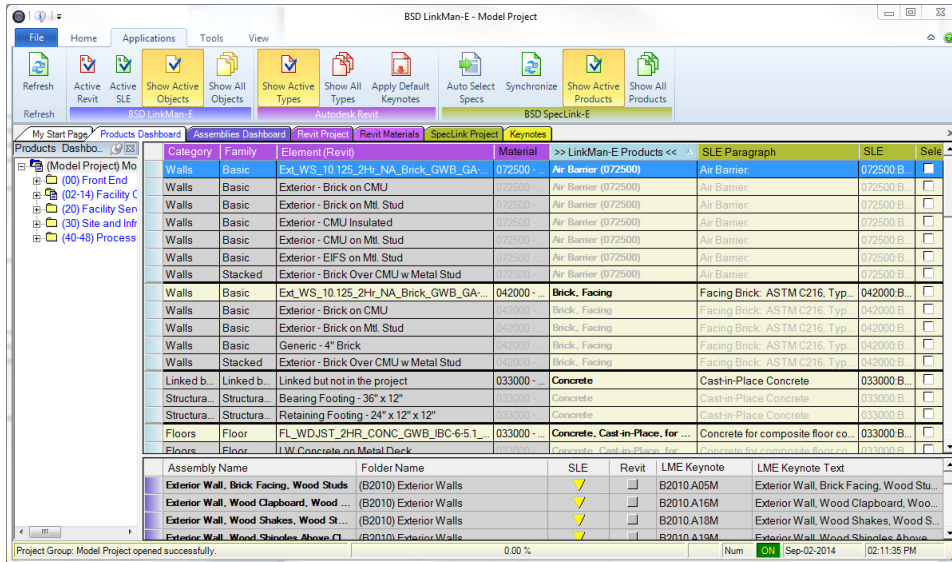


The Show All Objects command on the Applications tab affects the Assemblies Dashboard, the Products Dashboard, and the Keynotes tab.

- For the Assemblies Dashboard, it shows all assemblies under the folder currently highlighted in the Assemblies Dashboard tree, whether they are active in any of the linked projects or not.
- For the Products Dashboard, it shows all products under the folder currently highlighted in the Products Dashboard tree, whether they are active in any of the linked projects or not.
- For the Keynotes Tab, it shows all of the available Keynotes under the highlighted folder, whether they are applied to Revit Objects/Materials or not.

Clicking on Show All Objects (if it is not already selected) from a tab other than the Assemblies Dashboard, the Products Dashboard or the Keynotes tab will change the focus to the Products Dashboard.

Show Active Objects

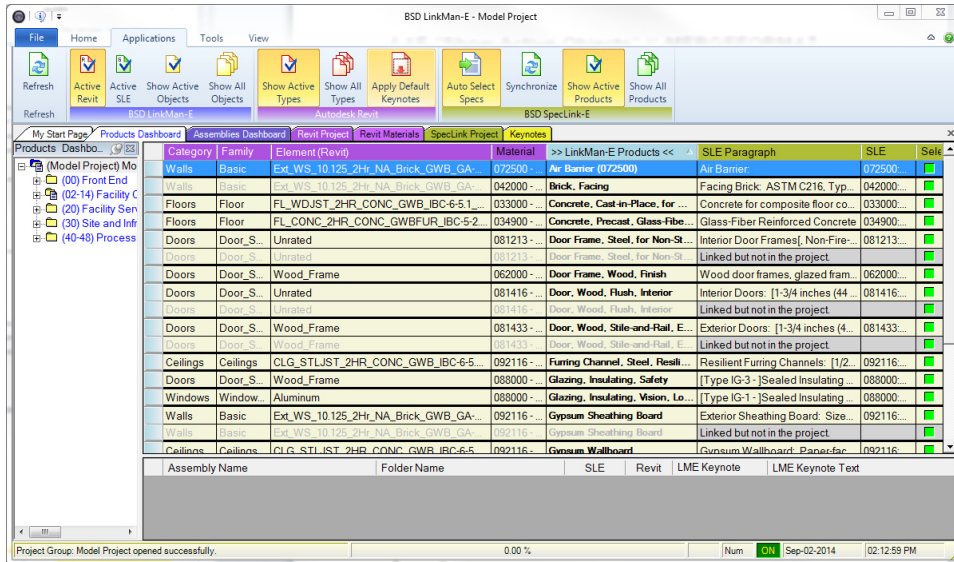


The Show Active Objects command on the Applications tab affects the Products Dashboard, the Assemblies Dashboard, and the Keynotes tab.

- For the Assemblies Dashboard, it shows only the records under the folder currently highlighted in the Assemblies Dashboard tree, that are active in any of the linked projects.
- For the Products Dashboard, it shows only the records under the folder currently highlighted in the Products Dashboard tree that are active in any of the linked projects.
- For the Keynotes Tab, it shows the Keynotes that are applied to active Revit Objects or Materials.

Clicking on Show Active Objects (if it is not already selected) from a tab other than the Assemblies Dashboard, the Products Dashboard or the Keynotes tab will change the focus to the Products Dashboard.

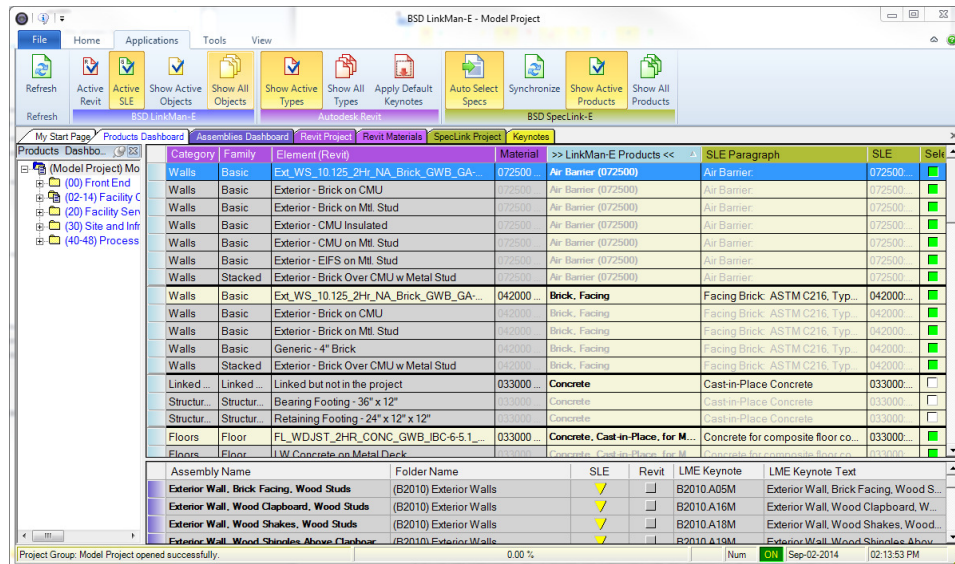
Active Revit



The Active Revit command on the Applications tab affects the Products Dashboard, the Assemblies Dashboard, and the Keynotes tab.

- For the Assemblies Dashboard, it shows all active Revit objects under the folder currently highlighted in the Assemblies Dashboard tree, whether or not they are linked to LME Assemblies.
- For the Products Dashboard, it shows all active Revit objects under the folder currently highlighted in the Products Dashboard tree, whether or not they are linked to LME Products.
- For the Keynotes Tab, it shows the Keynotes that are applied to active Revit Objects or Materials.

Active SLE



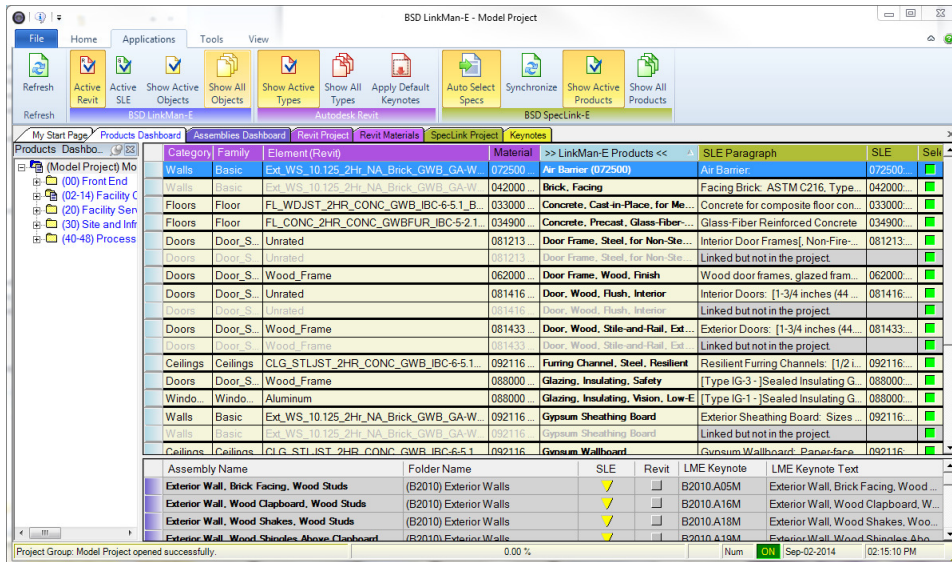
The Active SLE command on the Applications tab affects the Products Dashboard, the Assemblies Dashboard, and the Keynotes tab.

- For the Assemblies Dashboard, it shows all active SpecLink-E (PL or PP tagged) paragraphs under the folder currently highlighted in the Assemblies Dashboard tree, whether or not they are linked to LME Assemblies.
- For the Products Dashboard, it shows all active SpecLink-E (PL or PP tagged) paragraphs under the folder currently highlighted in the Products Dashboard tree, whether or not they are linked to LME Products.
- For the Keynotes Tab, it shows the Keynotes that are applied to active Revit Objects or Materials.

Refresh

The Refresh command on the Applications tab will bring in the most current information from both your Revit Project and your SpecLink-E project. It does not send any data to your SpecLink-E project. To initiate links in your SpecLink-E project use Synchronize. Note that you are not guaranteed you have the latest data from Revit unless you (or someone) goes into the Revit project and uses the Update LinkMan-E Data command to send the latest Revit data to the LME database. This step needs to be performed before the Refresh command.

Auto Select Specs



The Auto Select Specs command is available in either the Products Dashboard or the Assemblies Dashboard. It will put a green background in the Select Specs column for all products in the LME Group that are linked with SLE paragraphs. This command works the same whether you initiate it from the Products or the Assemblies Dashboard. Auto Select Specs is a toggle, so that you can turn it on or off by clicking on the menu command. The setting of on or off is saved with each project. It defaults to off when you begin a new LME Group.

Alternatively, you can check products individually. See Activating SLE paragraphs and sections.

Once the selections have been made, clicking on Synchronize will activate the links to the appropriate sections and paragraphs in the SpecLink-E project. If you deselect Auto Select Specs and then Synchronize, paragraphs that were activated by links from LME will no longer be activated by LME links.

Synchronize

The Synchronize command on the Applications tab/BSD SpecLink-E Group will:

1. Send data from your LME Group to your SpecLink-E project, the status of the Select Specs column in the Products and Assemblies Dashboards.
2. Wait for the SLE server to reflect the changes in the SLE project.
3. Do a Refresh so that your LME Group displays the new current status of your SLE Project as well as your Revit project.

If you simply want to see the current status from your SLE and Revit projects, Refresh is the faster method since it does not send any data from your LME projects database to your SLE project.

Note that you are not guaranteed you have the latest data from Revit unless you (or someone) goes into the Revit project and uses the Update LinkMan-E Data command to send the latest

Revit data to the LME database, and then Refreshes in LME. If necessary, do this before using Synchronize.

The following condition needs to be in place for Synchronize to activate paragraphs in your SLE project:

- The SLE paragraph needs to be linked to a product in the Products or Assemblies Dashboard.

Note: If you get a message "SpecLink-E could not process the data, please try again" make sure that the BSD Data Server is started. If it is, try restarting the LME Data Server. For assistance, contact BSD Tech Support.

Closing the software

Click on the X in the top right corner of the application. If you have an LME Group open, it will be closed automatically.

Getting Help

Accessing and Using Help

Help is right at your fingertips. There are two ways to access Help:

F1: At any time press F1 to open Help.

Help Icon: Click the Help icon  at the top right of the application window.

Help has three tabs:

- **Contents:** Displays the Help contents. From the Contents list, choose the topic closest to what you need. Click on a topic to read it.
- **Index:** Displays a list of all Help topics in alphabetical order.
- **Search:** Type any word or phrase and then click on List Topics. All topics containing the word or phrase will be listed in the window below.

If you can't find what you need in the Help file, call Tech Support at 800-266-7732.

Electronic User Manual

The User Manual is available in electronic format and may be downloaded from our Download Center and then printed or loaded onto your hard drive. Using the "find" feature in the PDF Reader edit menu offers you a quick way to "thumb through" the manual electronically, to find something you might remember reading but cannot find in the paper version.

Working around time outs

If your SpecLink-E Projects database is over 1.25 GB in size (as shown in the SpecLink-E About dialog accessible from the File Menu) you can shrink it by saving older projects to files and deleting them from the database, or by sending some projects to the Archive Database.

You can try running the SpecLink-E command Tools | Rebuild Project Links one or more times to speed up the linking process for the SLE project.

In the SpecLink-E Help, view the topic called Server Database Maintenance.

Customer Support

For assistance in installing or using LinkMan-E, contact customer support at:

- Call toll free: 1-800-266-7732 or 404-365-9226
- Email: support@bsdsoftlink.com

Tips:

- Support is located in Atlanta (Eastern Time [ET]), and office hours are 8:30 a.m. to 5:30 p.m., on normal business days.
- You can also download the latest copy of the software and the user manual from our Download Center.

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